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Minnesota MEDICINE

PUBLISHED MONTHLY BY THE MINNESOTA STATE MEDICAL ASSOCIATION

Minnesota State Medical Association

Annual Meeting

Duluth—June 30, July 1 and 2, 1947

NOVEMBER, 1946

Vol. 29 . . . No. 11

40c a copy—$3.00 a year

Printed in U.S.A.

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Minnesota Medicine

Journal of the Minnesota State Medical Association, Southern Minnesota Medical Association, Northern Minnesota Medical Association, Minnesota Academy of Medicine and Minneapolis Surgical Society

Volume 29 **November, 1946** **No. 11**

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Contents of MINNESOTA MEDICINE copyrighted by Minnesota State Medical Association, 1946.

Entered at the Post Office in Minneapolis as second class mail matter. Accepted for mailing at the special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 13, 1918.

MINNESOTA MEDICINE

OFFICIAL JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION

Published by the Association under the direction of its Editing and Publishing Committee

Office of Minnesota State Medical Association,
493 Lowry Medical Arts Bldg., Saint Paul 2, Minnesota.

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Annual Subscription—$3.00. Single Copies—$0.40. Foreign and Canadian Subscriptions—$3.50.

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Classified advertising—five cents a word; minimum charge, $1.00. Remittance should accompany order.

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Minnesota Medicine

Journal of the Minnesota State Medical Association, Southern Minnesota Medical Association, Northern Minnesota Medical Association, Minnesota Academy of Medicine and Minneapolis Surgical Society

Volume 29 November, 1946 No. 11

MILITARY DISEASES IN CIVILIAN LIFE

Preventive Procedures and Practical Suggestions

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THE problem that tropical diseases present in Minnesota is radically different from that which is encountered in the natural habitat of these infections. In the tropics one is dealing with ecological conditions which have brought about so wide a spread of the disease that a large fraction of the population is already infected; in some instances the non-infected person is the exception. As a consequence, the native of these areas has made unconscious adjustment for his condition, an adjustment which is often expressed in a fatalistic resignation which removes either attempt or desire to rectify the situation, even if he were able to do so. The inevitable result is continued spread of disease. By way of contrast, Minnesota is blessed with ecological conditions which are highly unfavorable to the spread of these infections. It has, therefore, a non-infected population and is in a position to do something about the occasional infections that are brought back.

Coincidental with the advent of international airplane travel in the prewar years, the prophets of disaster began to make dire predictions of the introduction and spread of tropical diseases. The safety from international spread that had existed due to the slowness of water transport, which kept other continents farther distant than the incubation period of the diseases subject to maritime quarantine, was suddenly lost, for a traveller infected in a far land might now reach American shores by air before the signs of the disease developed. The prophets of disaster forecast the introduction of yellow fever from South America, later the spread of *Anopheles gambiae* from its temporary foothold in eastern Brazil, the importation of cholera and plague from the Orient and the introduction of new strains of malaria and dysentery and of new intestinal parasites. These were but a few of the more significant predictions, none of which has as yet come true. The advent of war with the stepped-up rate of international travel and the subsequent return of large numbers of troops from the disease-infected tropics offered even greater possibilities for dire predictions, yet evidence of their validity still is lacking, nor can the idea be accepted that the increased tempo of postwar travel on a civil basis will produce hazards not experienced on a wartime military basis.

This is not the place to discuss the many epidemiologic fallacies that have underlain these predictions of disaster. Suffice it to say that in these predictions there was failure to differentiate between a bacteriologic or parasitologic possibility and an epidemiologic probability. In other words, there was failure to consider the obvious laws of mass action as applied to the effect of disease within a community. There is every reason to be certain that regardless of the return of infected troops and the postwar civilian travel into infected lands, the establishment of exotic tropical diseases in Minnesota will not occur, and the risk for even the southern part of the United States is extremely remote.

This does not mean, however, that one can sit back complacently with the thought that, because it is unlikely that these diseases will establish an

Read before the annual meeting of the Minnesota State Medical Association, Saint Paul, Minnesota, May 20, 1946.

endemic foothold within the state, they can be ignored, or that there will not be an occasional instance of local transmission. Unless great care is exercised in the selection of donors, avoiding the use of those infected within the preceding two or preferably five years, there will be instances of transmission of malaria through transfusions. Travel contact with endemic areas is increasing. Citizens travelling to these areas will require protection. Even if protected, they may acquire infection and present the physician with exotic diseases to be recognized and treated. Visitors from foreign lands will be more numerous and will present comparable problems. Prompt recognition of these cases will permit appropriate treatment and the adoption of suitable measures to reduce the risk of even an occasional local transfer of infection.

The first prerequisite to an accomplishment of these ends is a sense of awareness of the hazards of these various areas. The physician of today and tomorrow must know what are the disease hazards of foreign lands; lacking such personal knowledge he should be should be able to turn to his health department with confident assurance of obtaining reliable information on such hazards. I should envision the health department of the future as a reliable source of such information for the travelling public and for the physician seeking to safeguard his patient who is embarking upon international travel. Yet I doubt if many departments today are in a position to furnish much reliable information. Similarly the department should be able to advise the physician as to suitable preventive measures to be taken in these various areas.

Never before has there been such an armamentarium of antigens, drugs and other preventive measures as has been evolved through wartime research or the wartime testing of previously known measures. Vaccines for yellow fever and typhus, developed before the war, have been severely tested and proved to be among the most effective of all known antigens, far exceeding the fondest hopes as to their value. Their administration should be standard practice for travellers to certain parts of the world. The physician has had increased evidence of the value of typhoid vaccine and of smallpox vaccination if properly performed. The many exposures to malignant smallpox in the Orient have shown that the traveller if properly vaccinated will be protected, and if not vaccinated may be a victim of this disease. Additional suggestive evidence is at hand of the value of cholera and plague vaccines, evidence of sufficient value to warrant their use for the person who is to be in a position where other protective measures are uncertain quantities. Wartime research has brought to light vaccines of apparent efficiency against Japanese-B encephalitis and possibly against scrub typhus and dengue. Still other vaccines are in the offing. It is not suggested that any one traveller will require the use of the complete antigenic armamentarium; the decision as to what is to be used in any individual case must be made by the physician acting on full knowledge of the disease risks and the international quarantine practices of the countries to be visited.

The traveller of today can be protected still further against the hazards of disease in foreign shores. Repellents of unrivalled efficacy offer him a means of protecting himself against pestiferous, as well as disease-bearing insects, ticks and mites, in areas where control has not been achieved. Whereas the military forces were able to carry their control measures with them, the civilian traveller of tomorrow will have to accept the inadequacy or even lack of control measures in the areas to be visited and will, therefore, have increased need of repellents. Similarly, he will have need of personal insecticides such as DDT, which has shown an amazing capacity as a lousicide when dusted into the clothing. Water disinfecting tablets may well be a standard part of his travelling equipment. His physician may desire to equip him with certain antimalarials, especially if further experience bears out the present indication that chloroquine, otherwise known as 7618, exerts a suppressive effect if given in weekly doses and is devoid of the unpleasant minor toxicity of quinacrine (atabrine).

These same measures, developed or brought to the fore by the war as part of the tropical disease control program, offer great hope for more effective means of treatment and control of the occasional cases which will be recognized in returned military personnel and in returning travellers. Just as the physician has finally learned to appreciate the many advantages that quinacrine (atabrine) possesses over quinine, wartime research has presented him with two new antimalarials which at last offer great hope of being really effective plasmodicidal drugs, which will not only cure the patient quickly but will also destroy all

residual organisms, so that the patient will not continue in a latent carrier state, serving as a source of infection for others. Chloroquine has already shown itself to be superior to atabrine in the treatment of the malignant falciparum infections, while a related compound, referred to as SN 13276, offers real promise as a plasmodicide in vivax infections. Such findings hold great promise, not only for the minor problem in Minnesota of treating the occasional case of malaria that is brought to the state but also for the vastly greater problem of malaria control in the endemic areas, where the disease has for years been the chief deterrent to greater development of the potential riches of the land.

Of even greater significance is the prospect of effective insect control through the extensive use of the newer insecticides, especially DDT. The extreme toxicity of this substance for insect life, with its capacity to render an area unsuitable for insects for a prolonged period of time, offers many possibilities that cannot fail to intrigue the imagination of those who envision a new era of control of pestiferous as well as disease-bearing insects. In Minnesota there are both, though the problem of disease-bearing insects shrinks to nothingness when compared with the problem in some parts of the world. Military experience has clearly shown that use of DDT will achieve an amazing elimination of insect life and that it can be applied relatively simply to large areas, causing an effective control of insect-borne diseases, notably malaria and dengue. It is logical, therefore, that one should seek to determine the extent to which this new weapon can be applied in civilian life.

I have purposely stated that the attempt should be made to learn the applicability of DDT to civil insect-control problems, and not that a vast program should be started immediately, attempting to duplicate in civilian life over vast areas what was accomplished by the military within relatively restricted areas. The problems are totally different in magnitude and the potentialities for harmful side-effects are of a greatly different order. Military forces using DDT in restricted control or combat areas need give little thought to the toxic potentialities for agriculture, the poisoning of crops, the destruction of beneficial as well as harmful insects, and countless other side-effects. Yet it is precisely these questions that must be answered before a start can safely be made upon extensive civil programs of control of disease-bearing as well as pestiferous insects. Doubtless certain factors will be discovered that limit the use of this material, but I have no doubt that ways will be found whereby effective control measures will be developed that will be devoid of the risks. There exists a very practical necessity and obligation of proceeding with due care and caution until these limitations are learned, lest in enthusiasm more damage than good is unwittingly done.

The return of troops as well as of civilian travellers means that inevitably there will occur an influx of persons harboring the cysts of the *Endameba histolytica*, along with occasional convalescent carriers of dysentery bacilli. The former will be added to the already sizable reservoir of ameba carriers. Many of them will present recurrent intestinal disturbances which will bring them to medical attention, but the majority will never be recognized and will remain as a potential source of infection. Although some will doubtless enter food-handling occupations, the adoption of a program for their recognition cannot be urged, for the technical difficulties are still such as to make such a program impractical. Similarly, it will be necessary to recognize that the conventional water-treatment practices are not always such as to provide for destruction of amebic cysts, and, therefore, further dissemination of the infection may occur. This does not mean that one need anticipate a widespread or disastrous upsurge in the incidence of amebic dysentery. The present reservoir of infection is so large and the opportunities for dissemination of the disease so manifold that the returning infections constitute a very small and insignificant addition. There is as yet no evidence that the strains of amebae so added will constitute any more serious threat than those which are already endemic. Frankly, the public health workers do not know why there is such apparent widespread infection and yet so little evidence of harmful consequences, but until there is evidence of such consequences it certainly would not be justified to institute the enormously expensive program that would be necessary to eliminate all risk of spread of the cysts. Increased attention to sanitary practices of food handling seems to be all that can be recommended as practical at the moment.

The risk of extensive spread of new strains of

(Continued on Page 1111)

BACILLARY DYSENTERY

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WITH the return of members of the armed forces from service in the tropics and subtropics the American medical profession is showing an increasing interest in the so-called tropical diseases. In the northern tier of states these diseases will, on the whole, be seen among members of the armed forces who incurred them while in the tropics. They will not be acute forms but rather recurrent or chronic ones which have failed to respond satisfactorily to previous treatment. In the case of bacillary dysentery, which is not strictly a tropical disease but one of a world-wide distribution under conditions of poor hygiene and sanitation, the situation is different. Here is presented a disease which is unlikely to be seen in chronic or recurrent form but which is probably more important than others because of its continual endemic presence.

Incidence

One of the most important causes of morbidity in the world, especially in the tropics and subtropics, bacillary dysentery is very common in all parts of the United States. Its incidence is greater than any available figures reveal because in its mild form it is frequently unrecognized due to inadequate etiologic investigation of diarrheal diseases. Increasing interest in the study of these diseases points this out in the relative figures for the reported incidence of unclassified diarrheal disease and bacillary dysentery. Thus, between the years 1933 and 1943, the reported unclassified diarrheal disease incidence decreased 58.8 per cent while that of bacillary dysentery increased nearly 400 per cent. Not only a relative but actual increase in the disease is occurring.[1] The incompleteness of incidence reports is due (1) to the failure of patients to consult the physician for mild diarrhea, (2) to inadequate isolation and study, (3) to apparent success of palliative therapy in the milder cases, and (4) to lack of laboratory facilities. Obviously this points to a problem important because the means of prevention are known and the results of treatment are excellent.

Etiology

Bacillary dysentery is caused by the entrance into the gastro-intestinal tract of bacilli of the genus Shigella of which the most common are the *Shigella dysenteriae* (Shiga bacillus), *Shigella paradysenteriae* (Flexner bacillus) with its many sub-types, and *Shigella sonnei* (Sonne bacillus). These organisms are widespread and are chiefly transmitted by the ingestion of food or drink contaminated by the feces of patients or carriers. specimens obtained from rectal swabs. (The latter have no advantage except that by this method selective media can be inoculated immediately, obviating the necessity of waiting until the individual has had a bowel movement. In the swab method, a cotton-tipped applicator is placed in a small rubber tube, the distal end of which is lubricated and inserted into the rectum. The applicator is pushed beyond the inner end of the tube, the mucosa swabbed, and the applicator withdrawn into the tube which is then removed from the rectum.) The contamination of food or drink can be effected by food handlers who are carriers, by vectors such as flies or ants, or by water or vegetables contaminated at their source. The latter is especially important where human feces is used as fertilizer and is not common in this area. Man is the transmitter of the disease between localities and is much more important as a carrier than is generally recognized.[3] He may carry the organisms as a convalescent patient for many months, or he may be a carrier without ever having had the clinically recognized disease. Surveys of healthy individuals in New York City showed 2 per cent to be carriers while in the South, (Georgia, Mexico, Porto Rico) the incidence was 3.2 per cent.

Clinical Course

Observation of the clinical course of this disease in the Armed Forces[4] demonstrated the wide variation in clinical manifestations and the general lack of relationship between the type of Shigella isolated and the severity of the illness. Mild cases with only slight abdominal discomfort and a few or no loose, non-bloody stools are much more common than those with the usually described clinical picture. These cases have been known as intestinal "flu," summer diarrhea, or acclimatization diarrhea. From these cases the pic-

Read before the annual meeting of the Minnesota State Medical Association, Saint Paul, Minnesota, May 20, 1946.

ture varies to one of a severe fulminating infection associated with a marked general toxemia. The more easily recognized course is one of sudden onset, often with chill, headache, vomiting, generalized abdominal pain, cramps and tenesmus, followed shortly or up to a day later by diarrhea with blood, pus and mucus in the stools. However, it must be remembered that many variations of this picture may occur. Cases may be ushered in with high fever and delirium. They may be first seen in coma. While the abdominal tenderness is usually general, it may be localized in the lower right quadrant and simulate acute appendicitis. Only about 25 per cent of cases showed bloody stools in one hospital's experience in Africa; most were watery and with mucus. The disease may be associated with a fever to 103° F. and a degree of prostration which depends on the toxicity and water loss. Occasionally, the picture may be a febrile illness with the abdominal symptoms appearing twenty-four to forty-eight hours later. These cases and those with complications suggest that this is a systemic disease becoming early localized in its manifestations.

Of these types the most common and most often undiagnosed are the mild cases. These are often treated symptomatically, respond well in a short time without therapy and are not adequately investigated. The importance of this group rests not in its disabling character but in the danger of the convalescent patients as carriers. They are less apt to be missed in epidemics where their occurrence in association with more acute cases increases the suspicion of the physician.

Occasionally the disease may assume a relapsing form or go into a chronic type where insufficient therapy is given or too early a return to normal diet is allowed. With present methods of treatment such cases should be rare. In epidemics atypical forms may be seen, described by outstanding characteristics as appendicular, pneumonic, meningitic, agranulocytoid or afebrile.[1]

Laboratory findings other than stool cultures are not significant. The white blood count is usually normal but may rise to 15,000 to 18,000 Leukopenia may be found in very toxic cases, and until recently agranulocytosis has usually been fatal. Agglutination tests are negative in the acute stages and of doubtful value in the relapsing or chronic forms. Considerable difference of opinion exists as to the value of proctosigmoidoscopy in the diagnosis of this disease. In experienced hands this examination may reveal hyperemia, petechiae and ecchymoses, edema, superficial necrosis and profuse mucus secretion which characterize the disease. Some,[4] however, regard it unjustified as a routine procedure in the acute stage because of the pain associated with introduction and the damage which may result. Probably a clinical therapeutic trial is justified in the acute case, with visual examination restricted to those not responding. The clinical course of the untreated cases usually runs from seven to ten days. With treatment the diarrhea usually stops promptly in a few days, the disability period varying with the severity of the disease. Early treatment in the acute stage is especially important in the prevention of relapses, the chronic form, and the carrier state.

Differential Diagnosis

The differential diagnosis of the usual diarrheal diseases is not often difficult. Food poisoning and the Salmonella infections occur in groups following the ingestion of foods which can often be recognized, the former being due usually to toxins of staphylococcus origin and coming on several hours after partaking of the food, the latter appearing about twenty-four hours after the food ingestion. Bacillary dysentery is the most common of the diarrheal diseases, and the diagnosis can be confirmed by a positive stool culture although a negative report occasionally occurs. Acute amebiasis is much less common and in general presents a somewhat different clinical picture, the onset being more insidious, symptoms of toxemia absent, and the stools showing few leukocytes. Differentiation by these alone is hazardous, the diagnosis ultimately depending on repeated microscopic studies of warm stool specimens and proctoscopic examination.

Malaria must be occasionally considered, especially when the onset appears with a chill. Examination of blood films for the plasmodia must be made when there is any doubt.

At times the onset of infectious hepatitis will simulate bacillary dysentery, but the stools will not show blood or pus, generalized abdominal tenderness is absent, and a tender liver is usually palpated.

Complications

Complications are occasionally seen, usually after the acute stage is passed. Arthritis, mono- or

poly-articular, frequently involving larger joints such as the knees, is seen, usually in the Shiga type. Myocarditis, often quite severe, occasionally complicates the Shiga type, but complete recovery is the rule. Pneumonia, neuritis, iridocyclitis, and conjunctivitis have been described.[2] The relative number of complications seen in the Mediterranean Theater of Operations of the United States Army was much less than reported complications of past epidemics. This is probably due to the general use of the sulfonamides therapeutically. The complications seen were not related to the severity of the original infection.

Treatment

The advent of the sulfonamides has markedly altered the treatment of bacillary dysentery, greatly shortened the course, and nearly eradicated the troublesome relapsing and chronic forms. It has rendered obsolete the use of cathartics which is now definitely contra-indicated. The response to sulfonamide therapy is very prompt. Rarely does a patient fail to show improvement within twenty-four hours after it is started, there being an increase in well-being, a reduction in the temperature, and a marked reduction in the number of the stools. Sulfadiazine is probably the drug of choice in dosage of 2 grams at the start followed by 1 gram every four hours for two days, then 1 gram every eight hours for three days more. Sulfaguanidine is preferred by some with an initial dose of 7 grams, a dose of 3.5 grams every four hours for the first forty-eight hours, following which 3.5 grams is given every eight hours to complete ten days of treatment. The object of therapy is to relieve the patient and to eliminate the organism from the stools, thus decreasing the number of convalescent carriers and lessening the likelihood of recurrences. Occasionally several courses of sulfonamides are necessary to accomplish this, and a rare case may then be unresponsive. The latter usually becomes negative spontaneously in six to eight weeks. Penicillin therapy is useless.

The relief of abdominal pain and restlessness is accomplished by a large single dose of opiate, preferably paregoric, 8 to 12 c.c. Atropine sulphate may be helpful in treating intestinal spasm. Absolute bed-rest is indicated as long as evidence of toxicity exists.

General supportive therapy is important. Fluids should be given in large amounts to replace the water loss, 3,000 c.c. daily or more. A sufficient amount should be given to insure a daily urinary output of at least 1,000 c.c. In more severe cases human plasma should be used where the picture of shock appears. Serum therapy has little place in the treatment at present. The action is probably antitoxic and is more effective in the Shiga type. It should be used only in the severely toxic cases, early in the disease and in doses of 40 to 80 c.c. once or twice daily until the temperature and pulse return to normal.

Good nursing care is essential, and the patients should be isolated as contagious cases with especial attention to the disposition and sterilization of discharges.

Diet in the acute cases should be very sparing, limited to rice or albumin water, tea, gruels, et cetera. With cessation of diarrhea the softer foods may be added slowly, but it is well to remember that the healing of the bowel takes considerable time and premature return to a general diet can easily cause a relapse of the disease. Mild or moderately ill cases are able to retain a soft diet from the outset.

Following clinical recovery, stools should be examined on alternate days and the patient confined until at least two successive stools are negative. Thereafter it is wise to check them once a week for a month to recognize those cases which may become carriers. Carriers are susceptible to therapy and should receive the same treatment as the clinical cases.

Due to the preponderance of bacillary dysentery among the diarrheal diseases, it seem advisable, except in outbreaks of food poisoning, to treat all acute diarrheas with the sulfonamides even if laboratory facilities are not available. Experience has shown that any case not responding to such therapy within forty-eight hours is very unlikely to be due to Shigella infections.

Control

The control of bacillary dysentery is too involved a problem to discuss in detail. It is the same as that for the other diarrheal diseases involving caution indicated by our knowledge of the spread of such disease. Thus it is essential that all food handlers be known to have negative stools, that they wash their hands well and fre-

quently, that vector control, flies, cockroaches, ants, be adequately handled, and that the purity of water supply and the innocence of fresh vegetables ingested should be established. With these principles observed, the diarrheal diseases should show a continually decreasing incidence.

Conclusions

A few observations may summarize recent advances in our knowledge of bacillary dysentery.

1. This disease, besides being one of the devastating diseases of the tropics, is also an important source of morbidity in most other parts of the world.

2. Bacteriologic study of the stools in diarrheal disease shows a much higher incidence of bacillary dysentery than had been expected. These investigations also show that many cases of mild diarrhea are bacillary dysentery, significant in that many of their convalescents may be carriers.

3. Past treatment of this disease with saline cathartics has been rendered obsolete by its remarkable response to sulfonamide therapy. Sulfadiazine is the drug of choice.

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MILITARY DISEASES IN CIVILIAN LIFE

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bacillary dysentery infection seems slight. Bacillary dysentery is already widespread in the United States, usually in unrecognized form, and there is no evidence of a decline in the incidence of these infections. Fortunately, most of the strains to be brought back will be the same as those now endemic. The occasional new strains are fortunately of greater severity and, therefore, infection with them will be more readily recognized and treated. New methods of treatment, preferably with the sulfanomides, would appear to be effective in establishing bacteriologic as well as clinical cure. The chief obstacle to establishing effective control of existing strains has been the fact that the majority of the infections are so mild as to escape recognition, and thus continue to spread through rather direct association with the new victim. The present measures for prevention of water- and milk-borne infections are adequate, and one may expect less spread of more virulent strains through food or direct association, inasmuch as the mere severity of the infection will bring the disease to official attention. It is incumbent on all physicians to develop an increased sense of awareness for these infections so that they may be properly segregated and treated.

It is apparent from the foregoing that little fear is justified as to the impact of tropical infections upon an area such as Minnesota. Imported infections will doubtless occur but it seems extremely remote that they will establish a foothold within the state. Furthermore, it seems unlikely that any drastic changes are needed in current public health practices. The most important single factor is an increased alertness of the medical profession to the detection of the occasional instance of tropical disease, so that effective treatment and control measures may be instituted promptly to guard against even the occasional case of local transfer of infection.

PLANNING THE HOSPITAL FOR COMMUNITY SERVICE

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THE studies of the Commission on Hospital Care confirm what everyone intimately associated with the problem knows, that the 50,000,000 or more Americans who live outside the immediate trading area of the larger centers of population do not have conveniently available the same quality and quantity of health services as the people in these urban centers. The principal reason is economic. Wealth tends to concentrate in the cities, and more and better health facilities and services are found there.

The city health department has a budget and the trained personnel to enable it to do an effective job in its special field. Hospitals as a rule are of fairly substantial construction and equipped to give the people service, and the ratio of beds to population is much higher than in rural communities. The ratio of physicians, dentists, nurses, and other health personnel to population is comparatively high and they have better training and experience.

Few specialists in medicine are found outside the larger cities. One reason is that many of the specialists can serve the needs of a comparatively large population. It takes 40,000 or 50,000 people to keep a diplomate of the American Board of Radiology busy and the diplomate of the American Board of Pathology can serve 80,000 to 100,000 people, but to maintain these ratios on a national basis would require about twice as many of these specialists as are now available. That means that the large centers attract these men and the smaller communities either do without these essential diagnostic services to the practice of modern medicine or the patient is compelled to travel comparatively long distances. This absence of good diagnostic service is perhaps the major weakness in rural and small town health services. The hospital activities of the W. K. Kellogg Foundation are directed primarily toward improving these services.

The problem of providing rural and small town America with adequate health services divides itself into three phases: (1) finances, (2) personnel, (3) facilities. These three divisions of the problem are so interdependent that it is difficult to say which comes first or which is most important, but without some more satisfactory method than at present of paying for the services of health personnel and for construction and operation of facilities little can be accomplished.

1. *Finances.*—The old pay-as-you-go method of financing medical care and hospital service does not work so well for the lower income groups. The present trend is toward pooling of community resources on the insurance principle, and both voluntary and compulsory plans are being vigorously advocated. The farmer, an individualist of the first water and inclined to be self-respecting and self-reliant, does not take kindly to the idea of legal compulsion in such an intimate personal relationship as that of physician and patient, but he does not belong in any large numbers to the voluntary prepayment plans for hospital care and practically not at all to medical service plans and he does not have conveniently available the same quality and quantity of medical service and hospital care as his city neighbor.

A number of reasons could be cited for this condition, but the major reason is economic. The farmer at least thinks he does not have the financial resources with which to pay for these services. It might be argued that he spends and possibly wastes money on many things less essential than health, but the fact still remains that the farmers as a group do not have as much income per capita as city people and they do not join prepayment plans.

A logical development would seem to be state or federal subsidy, or perhaps both, of established voluntary plans that would encourage the indigent and medically indigent to become members. Counties in most states either are entirely responsible or share the responsibility with the state for the hospital and medical care of this segment of society. If the state or the federal government, such as proposed in the bill recently introduced by Senator Taft, should subsidize voluntary pre-

Read at the annual meeting of the Minnesota State Medical Association, St. Paul, May 22, 1946.

payment plans, this would be a powerful stimulus to county public health and welfare authorities to get the indigent and lower income groups enrolled in the plan and pay the subscription if the individual or family were not able to pay. The advantages of having all economic groups in the plan are obvious.

2. *Personnel.*—Physicians and other health personnel tend to congregate in the larger centers of population where they have adequate diagnostic and therapeutic facilities and well-trained consultants to work with. Adequate facilities in the more rural communities will tend to attract more doctors, largely general practitioners, but it would be necessary to draw on the larger centers for consultants in the specialties and for administration. This means some sort of regional organization of health services around the larger centers of population.

The medical schools can make a large contribution toward improving rural medical service through more extensive graduate and postgraduate medical education programs. The University of Minnesota has an extensive postgraduate program, but the University of Michigan has recently gone farther in both graduate and postgraduate education. It will rotate resident physicians through smaller approved hospitals. At the university he gets the basic science instruction he needs for his specialty board. This university affiliation will elevate the standards of graduate medical education and, incidentally, improve the quality of medical service.

3. *Facilities.*—With hospital care financed on a cost basis and medical service paid for on a prepayment basis, rural America is still faced with the problem of providing facilities from its comparatively limited resources. Senate Bill 191, the Hospital Construction Act, if it becomes law, would help to a considerable extent with this problem. If the report and recommendations of the Commission on Hospital Care, which will appear next October, are followed in carrying out this grants-in-aid program to states for the construction of hospitals and health centers, an orderly plan of development of health facilities should assure rural America of adequate facilities.

The Commission on Hospital Care has found that health services generally are somewhat disorganized and there is too much overlapping of function and duplication of effort. It will undoubtedly recommend that the general hospital become the community health services center by adding to its functions responsibility for communicable diseases, including tuberculosis, and nervous and mental and chronic diseases, public health activities, visiting nurse service, and the offices of the physicians and dentists. To develop such a center requires careful planning along lines that have not been followed in the past.

The floor plans of the health services unit in Charlotte, Michigan, illustrates how these services may be integrated to provide adequately for the needs of the people with maximum efficiency and at minimum cost. Charlotte, county seat of Eaton County, has a population of 5,500. Approximately 26,000 people live in its hospital service area. It is twenty miles from Lansing and twenty-six from Battle Creek, both comparatively large cities from which it secures consultants in radiology and pathology. This unit will replace an old residence with twenty-four beds now used as a hospital.

The small basement under the kitchen area provides space for the heating plant, lockers for employes, and some storage. The first floor is at ground level and, except for the basement area, is concrete slab poured on the ground. In a community like this, where land is not expensive, there is no point in burying the dietary services, for example, in the ground, as is frequently done. It is also a distinct advantage to have the first floor at ground level.

The several departments on the first floor are functionally related to secure maximum efficiency. The plan is also expandable in several directions. Future expansion might include a chronic disease unit. Traffic can be adequately controlled at the main entrance. The diagnostic and therapeutic facilities are conveniently located to the offices of the physicians and dentists. The patient coming in by ambulance may go to surgery or by elevator to the patient floor. The hospital has a pitched roof and the elevator goes to the third floor where there is ample space for attractive living quarters for the resident physician and for storage. The dietary department has a separate service entrance.

The plan is for the county health officer to be director of both the hospital and the health de-

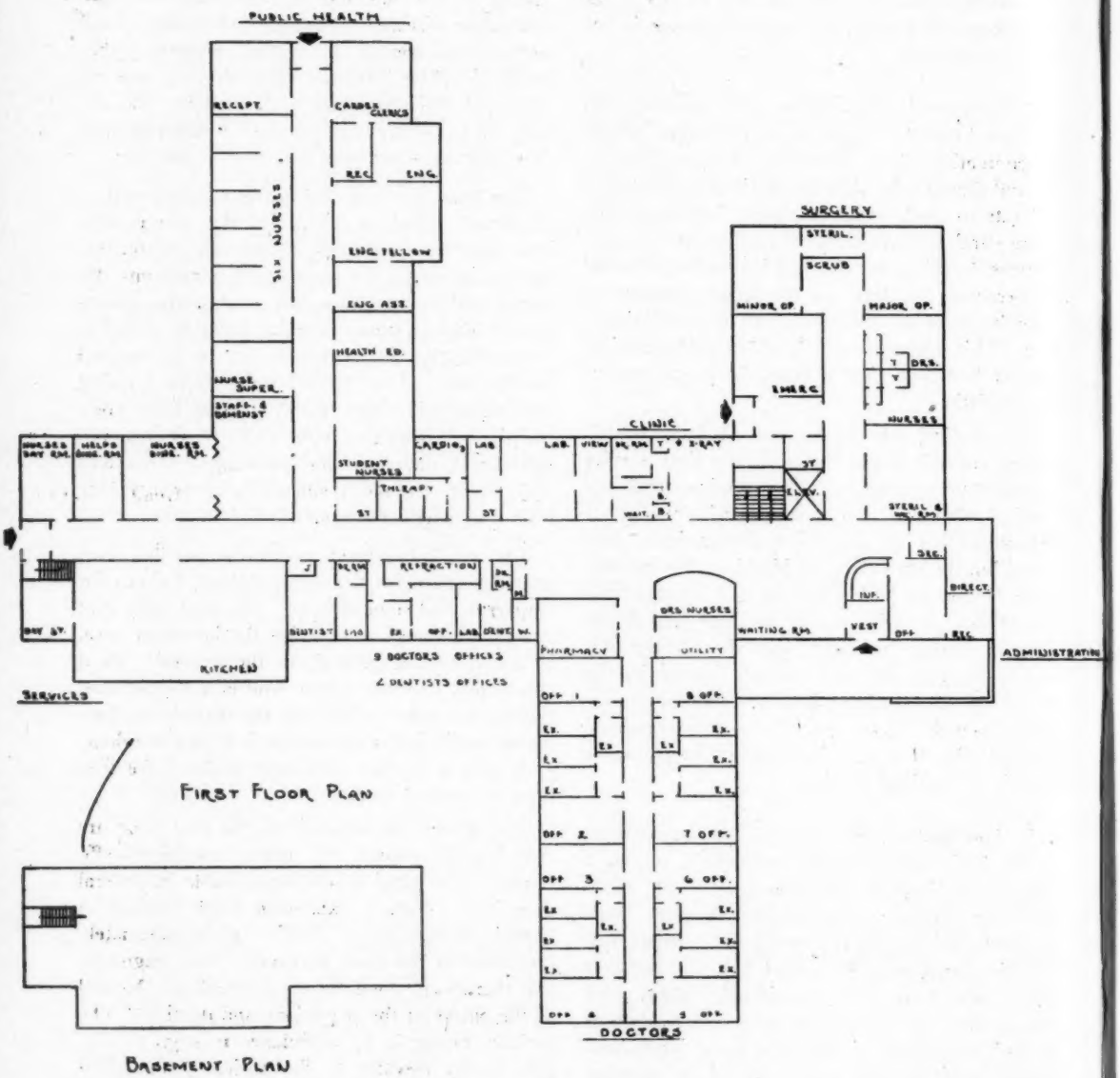

Fig. 1. Hayes-Green-Beach Memorial County Hospital (56-62 beds). Lewis J. Sarvis, Architect, Battle Creek, Michigan. First floor plan.

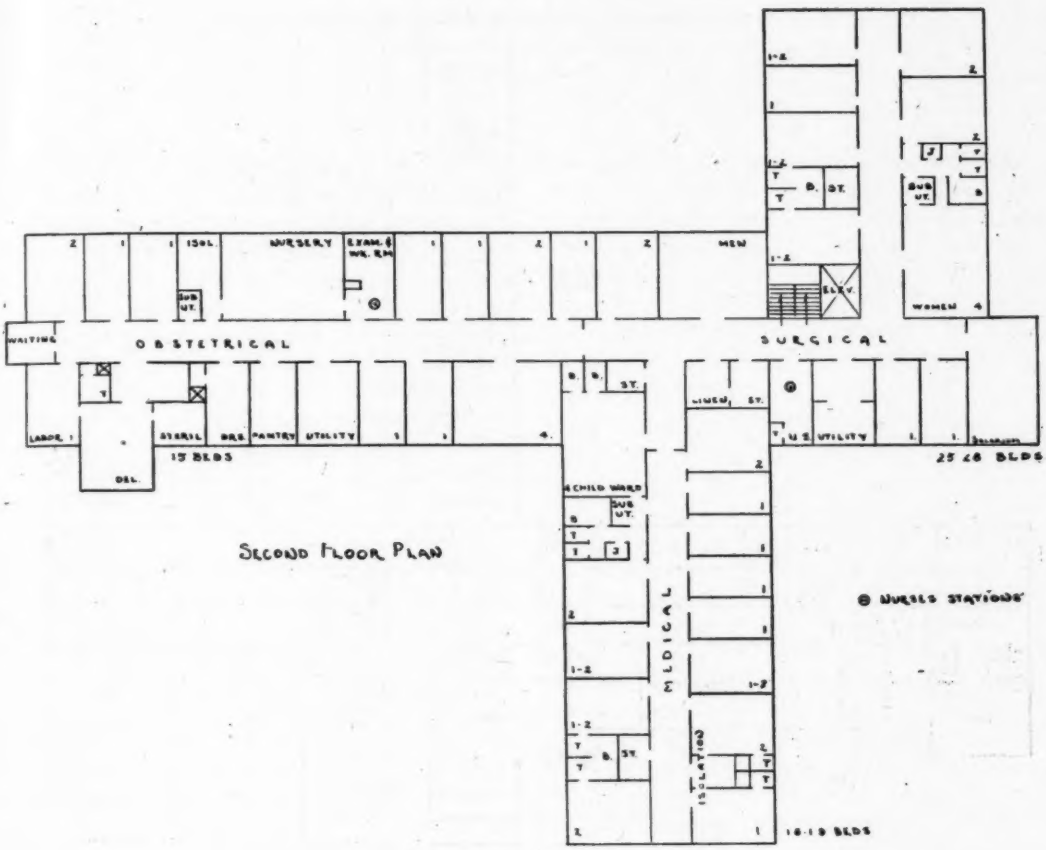

Fig. 1. Second floor plan.

partment. This is a field training center for public health personnel, one of the seven county health units in the Michigan Community Health Project of the W. K. Kellogg Foundation. Public health administrators, engineers, nurses, and educators are assigned to this area by universities to secure practical experience. For that reason the space provided for the health department is more than usually found in counties of this size.

By placing all of the beds on the second floor, it is possible to economize in the use of personnel in periods of low occupancy and eliminate duplication of service facilities. Six single bedrooms are large enough to accommodate two patients, if necessary, which would make the maximum bed capacity sixty-two. The two rooms set aside for isolation of communicable diseases, with separate bath and sterilizing and service equipment, do not have an outside entrance, but that is no longer considered necessary. It is planned to have one of these rooms equipped for the temporary care of disturbed mental patients, instead of locking them up in the local jail.

The single story unit at Paw Paw, Michigan,

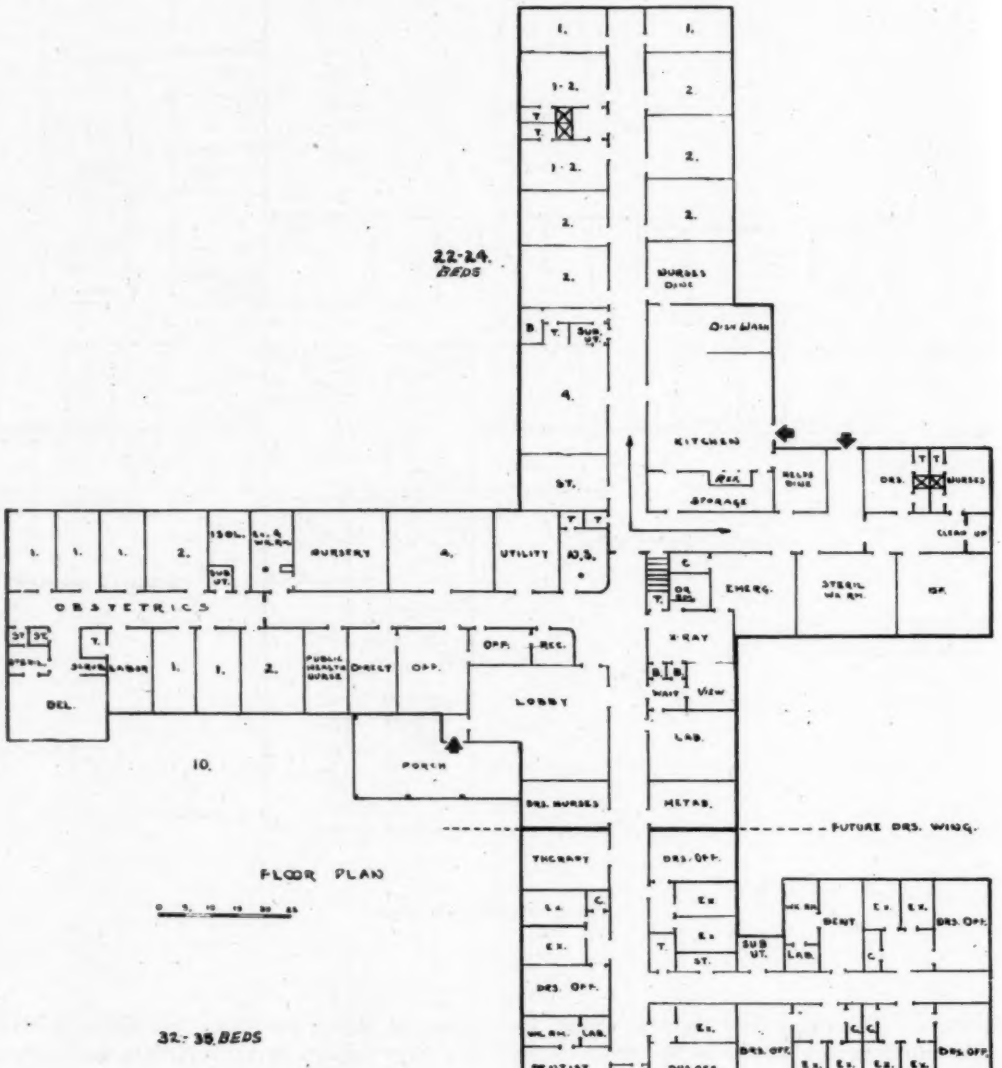

Fig. 2. Paw Paw Hospital, Paw Paw, Michigan (32-35 beds). Lewis J. Sarvis, Architect, Battle Creek, Michigan.

has maximum accommodation for thirty-five patients, excluding the newborn. This town, which is twenty miles from Kalamazoo, has a population of 1,900 and some 12,000 people live in its service area. A unit this size is compact enough for efficient operation with only one floor. The possible future addition of offices for physicians and dentists is indicated.

MEDICAL SERVICE IN THE COMMUNITY HOSPITAL

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WHILE we speak individually of medical practice, hospital care, nursing and other auxiliary services, we are relating these terms more and more to the general concept of community health. Each factor plays a significant role in the care and treatment of the sick; all are essential to the health and well-being of the community. The hospital itself does not and cannot practice medicine. Yet its facilities are being utilized to an ever-increasing degree in the actual care and treatment of patients. Let us, therefore, consider briefly the tremendous volume of service carried out in our American hospitals.

There are, at the present time within the continental limits of the United States, 6,511 hospitals registered by the American Medical Association. These have a total capacity of 1,739,000 beds exclusive of 83,000 bassinets for newborn infants. In 1945, 16,257,000 patients were admitted for hospital care (12 per cent of the total population), with an admission rate of one person approximately every two seconds. In addition, the registered hospitals gave care to 1,969,000 new born infants, a number representing one hospital birth every sixteen seconds. Equally impressive is the average census report indicating that 1,405,000 patients are regularly under treatment each day. This average, measured over a period of one year, represents the staggering total of 512,915,000 patient-days.

The general hospitals, numbering 4,744, supply by far the greatest volume of hospital service as evidenced by their report of 15,228,000 admissions or nearly 94 per cent of all patients admitted in 1945. They likewise reported 1,908,000 newborn infants, or approximately 98 per cent of the total hospital births. Only 6 per cent of the admissions occurred in the special hospital group comprising the nervous and mental institutions, tuberculosis sanatoriums, isolation hospitals and other units limited to individual hospital funtions. Significantly, however, the mental hospitals, which receive less than 2 per cent of all admissions, have 624,000 patients under treatment at all times as compared with 665,000 in the general hospital group. Thus, nearly half of the total number of hospital beds in the United States are occupied by patients suffering from mental diseases.

The community hospital should represent, in our mind, a general hospital service appropriate to the needs of the individual community. Basically, the general hospital should provide facilities for medical and surgical patients, both adult and children, maternity care and the treatment of accidents and other emergencies. If the hospital is to render a full community service, it would also be necessary that provisions be made for the temporary care and isolation of contagious diseases, tuberculosis and mental disorders, unless special hospitals and sanatoriums are readily available for this purpose. We know that the size and function of the community hospital will depend upon a number of factors: the area served, density of population, economic level, transportation facilities, distance to other hospitals and medical centers, the availability of medical service in the community, the degree of specialization and so on. Thus we find that the general hospitals vary in size from approximately ten beds to 1,000 beds or over, with corresponding variations in function ranging all the way from limited, or temporary emergency care, to the complete service offered in our fully organized hospitals.

With this background let us turn our attention to the medical service which constitutes the most important single factor in the program of hospital care. In the organization of the medical staff, there are two major considerations: (1) the legal requirement that medical service be rendered only by licensed physicians, and (2) the moral responsibility and obligation on the part of the

Read at the annual meeting of the Minnesota State Medical Association, St. Paul, Minnesota, May 22, 1946.

medical profession and the hospital to determine that staff physicians are properly qualified by training and experience, and that they are proficient in the fields of practice to which they devote themselves. To qualify for licensure, a physician must have received at least two years of premedical college education, four years of instruction and training in an approved medical school, and one year of hospital internship as required by several of the state licensing boards. Even though the internship is not a uniform requirement in all states, its importance in the field of medical education has become so firmly established that well over 98 per cent of all medical graduates obtain at least one year of hospital experience before they enter medical practice.

While licensure confers the right to practice medicine in all its fields, it is obvious that medical science has become so complex and far advanced that no single physician can be skilled in all divisions of medicine. On graduation from an approved medical school and completion of a hospital internship, the physician is professionally competent to enter general practice. For specialty practice, however, he will require additional training in accordance with present standards of graduate medical education. Under the sponsorship and approval of the American Medical Association, Specialty Boards have been established in fifteen branches of medicine and surgery to evaluate the qualifications of physicians who wish to be classified as competent specialists. In general, the requirements for certification by the American Specialty Boards include graduation from an approved medical school, the completion of a year of internship, three years of specialty training, two years of additional study or practice in the selected field and, finally, a rigid qualifying examination, both written and practical. In some of the specialties, still longer periods of training are required for certification. These requirements, it should be noted, are voluntarily imposed by the medical profession itself, to improve the quality of medical practice, that patients may receive the best possible care.

It has long been recognized that the controlling board of a hospital has the right to determine who may or may not be permitted to practice in the hospital, assuming, of course, that medical licensure requirements have been fulfilled. Most hospitals at the present time operate with an "open" staff. These have, in addition to the regular attending staff, an open group to which courtesy privileges have been extended in accordance with rules and regulations adopted by the hospital. In many instances, however, limitations have been placed on the size of both the regular and the courtesy staffs, showing that the hospital is not completely open as the term would seem to indicate. Some hospitals have a limited staff designated as "closed"; others may be "semiclosed" in that courtesy privileges are extended only in certain departments.

While hospitals have the right to limit their staff, and do so in the interest of patient care, they should be careful not to exercise that privilege to the point where qualified physicians in the community are totally excluded from hospital practice. Obviously, in a large city no single hospital can accommodate all physicians, but provision should be made in the distribution of staff services so that a properly qualified practitioner may have access to at least one hospital. Hospitals have become key centers of medical practice, and modern medicine cannot be practiced successfully except with the diagnostic, therapeutic and other facilities which hospitals provide for the use of physicians. With the return and relocation of physician veterans, it is especially important that hospital facilities be made available to them not only as an aid in the re-establishment of their practice, but also in order that they may benefit from the contacts and professional association which hospital appointments afford. It is also hoped that physicians located in areas devoid of hospital service may have increased opportunities to enter into active association with nearby hospitals so that they may enjoy the benefits of staff meetings, professional consultations, increased diagnostic service and a wider experience in clinical practice. Such affiliation will be valuable not only as continuation training but as a preparation for the assumption of further hospital duties when facilities are later provided in their own community.

In the program of hospital standardization, there has been developed over a period of years, a pattern of medical organization designed to give to the patient the highest quality of medical service. The principal objective of such organization is the establishment of professional teamwork and the co-ordination of services so that individual skills may be utilized to the greatest advantage. This involves, first of all, the development and

adoption of by-laws, rules and regulations defining the administrative functions of the staff, the duties of officers and committees, the organization and departmentalization of the professional service, and the maintenance of staff meetings and conferences in accordance with medical and administrative needs. The form of staff organization most satisfactory to a hospital will depend on a number of factors including the size of the institution, scope of service, number of physicians available, degree of specialization, educational functions and other items. In the very small hospital an elaborate plan is not practicable; yet there should be some authority competent to evaluate the qualifications of those who wish to use the hospital's facilities. It is particularly important that care should be exercised in the assignment of surgical privileges since it is essential for the safety of patients that both the surgeon and his assistants be properly qualified. In large hospitals the regular pattern of staff organization is usually followed with staff officers and such committees as executive, credentials, records, surgical, educational and others in accordance with hospital needs. Of these the medical executive committee is the most important as it represents the staff in the formulation of medical policies, acting also as a liaison with the hospital governing board. The credentials committee has a similarly important function in the evaluation of qualifications for staff appointment although these duties have now been simplified considerably through the certifying activities of the specialty boards.

Depending upon the size of the hospital the medical staff can usually be divided into one or more of the following groups: (1) the regular, or attending staff, (2) the courtesy staff, and (3) the consulting staff. If the hospital is small, the regular staff may consist of only a few physicians who devote themselves mainly to the general practice of medicine, obstetrics and a limited amount of general surgery. This practice will broaden, however, as the staff physicians develop interests in special fields and improve their knowledge and skill through years of experience and courses of postgraduate training. With the liberal use of consultants from nearby medical centers, the hospital will become increasingly progressive and may eventually succeed in developing a full community service. As the physicians begin to limit themselves to special fields, the organization of separate services will appear, first in surgery, perhaps, then internal medicine, obstetrics and eye, ear, nose and throat. In larger hospitals a further departmentalization may occur in accordance with clinical and educational needs, and some institutions have also established a separate department of general practice, thus giving recognition and encouragement to the large number of physicians who are centering their skill in the general aspects of internal medicine, children's service, maternity care and the medical side of surgical practice. The recognition of the general practitioner and the creation of opportunities for his development is particularly important in the continued expansion of community hospitals and medical care.

In any program of medical and hospital care liberal provision should be made for consultation service. This is particularly essential in the small community hospital where staff physicians cover a wide field of practice yet have only limited opportunity for outside professional contact and interchange of information. Any system of practice will stagnate unless there are opportunities for professional growth, continued education and the stimulating experience of professional association with other physicians. The needs of the small hospitals in this respect are worthy of special study. Perhaps, with the present ease of transportation, a satisfactory solution will be found in the organization of a regular field consultation service. In the large hospital the problem is not difficult as the individual physician may avail himself of the services of the regularly established consulting staff. He can also utilize, whenever necessary, the assistance of members of the various departments of the active attending staff.

While medical service is concerned primarily with the care and welfare of the sick, it also encompasses the aims of preventive medicine and public health, the problems of social and mental hygiene, health education, clinical and laboratory research, and the preservation and continuity of medical practice through the education of young physicians. The American Medical Association has established standards for the training of medical students, interns, resident physicians, x-ray and laboratory technicians, physical and occupational therapists and medical record personnel. These educational functions do not in any way conflict with the main purpose for which the hospital is maintained, but serve to enhance the quality of medical and hospital care.

Medical students in their last two years of training spend the major part of their time in the clinics and wards of teaching hospitals where they participate in clinical studies under the supervision of the medical faculty. The scope of this service carried out in some three hundred hospitals closely associated with medical schools is indicated by the report of over ten thousand students in the junior and senior classes. It is generally recognized that four years of professional education devoted mainly to the rudiments of medicine, do not constitute sufficient training to meet the medical needs of a community. Recent medical graduates must, therefore, be given further opportunity to consolidate their theoretical and practical experience by assuming an increasing amount of responsibility in the treatment and care of hospital patients under the guidance of a competent medical staff. The internship fulfills this purpose and serves to complete the preparation for general practice. It bears an equally important relationship to the graduate field where it constitutes an essential prerequisite for residency, fellowship and other training that may lead to certification by the American Specialty Boards. The internship is basic preparation not only for general and special practice, but also for administrative medicine, educational pursuits, research and other activities requiring a medical background. It is apparent, therefore, that hospitals and medical staffs which participate in the training of interns perform a tremendously important educational function which is directly concerned with the supply of qualified physicians for general community medical service. Seven hundred forty-three civilian hospitals accommodate about 5,500 interns annually. Under normal peacetime conditions, however, they train nearly 7,500, since many interns elect to remain for an additional year of hospital experience. Reference has already been made to the training of specialists and the certifying program of the American Specialty Boards. I wish to point out, however, that 764 hospitals approved by the American Medical Association for residencies in specialties can provide training for more than 8,000 physicians. The facilities in this field are steadily increasing to meet the educational needs of discharged medical officers.

In addition to these activities, the hospitals conduct staff meetings and conferences for the continued education of their own staff members and they also participate in postgraduate courses conducted by medical schools and hospitals throughout the country. The work carried out at the Center for Continuation Study at the University of Minnesota is a splendid example of what can be accomplished in the continued training of physicians in active community practice.

Over 1,200 hospitals have accredited schools of nursing education in which approximately 130,000 student nurses are enrolled. Nearly 200 more offer affiliated courses for supplementary training in special fields. The reports that 268 hospitals have schools for laboratory technicians, 130 for x-ray technicians, thirty-two in physical therapy, eighteen in occupational therapy and ten for medical record personnel give further indication of the enormous contribution made by hospitals and medical staffs in the educational field.

One of the most valuable activities of the medical staff is its contribution to clinical research. Physicians working individually or in co-operation with other staff members or departments are constantly striving to advance the quality of medical service, improve present methods and procedures and develop new and more efficient techniques. New discoveries in medicine are carefully evaluated in hospital practice where their effectiveness and use can be accurately determined in relation to other clinical procedures. Laboratory research and the clinical application of new discoveries have added many a brilliant page to the annals of medicine —milestones of accomplishment—vaccination, the control of puerperal infection, aseptic surgery, insulin, blood plasma, endocrine therapy, sulfonamides, and penicillin, to mention only a few. Medicine cannot rest on its laurels, however; it must go on to other problems now pressing for early solution: the control of cancer, heart disease, mental diseases, tuberculosis and many others. The future holds promise in co-operative research and in continued clinical investigation. It will also require our support and co-operation for upon us, yes, all of us, the medical profession, the hospitals and the public, rests the responsibility for the continued maintenance of high standards of medical service and hospital care.

MODERN HOSPITAL CONSTRUCTION

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IN discussing modern hospital construction it is necessary to consider prevailing and anticipated techniques and practices to lay the foundation for comments and recommendations. It is my intention to discuss, principally, improved and needed facilities to carry out the new and advanced techniques and practices in treating and caring for the sick efficiently and economically.

The hospital long ago ceased to be a special boarding house for the sick where many people went only at the point of death. It has become a scientific institution for the restoration of health. As medical science advances in knowledge and achievement, the hospital must become more efficacious. It is basically a work shop for the physician and primarily an aid to medical practice. Besides being a scientific laboratory, it is also a social, educational and business institution. All these factors must be considered and coordinated into a functional plant.

The physical requirements of hospital structures have changed phenomenally in recent years. Development of new diagnostic and therapeutic methods has brought about the need for new facilities and new equipment. Broader concepts of both public health and hospital service are exerting their influence on hospital design. Improved methods of hospital administration have created new problems to be solved through modern construction. New materials and advances in construction design have resulted in basic revisions in building plans.

While it is essential to provide adequately for the doctors' and patients' needs, it is equally important to provide comparable facilities for the personnel operating the institution. As humanity grows more enlightened, it relatively becomes more sensitive, expects and is entitled to more consideration. Accepting this concept, as we must, the hospital should provide sufficiently for the efficiency, comfort and pleasure of its administrators, supervisors, technicians and other employes, skilled and unskilled.

A hospital is a purely functional building combining architecture and medicine. Naturally, the architect cannot know the practice of medicine; nevertheless, he must design a building wherein medicine may be practiced efficiently and economically. To accomplish this, he must have a working knowledge of hospital procedure and of the problems confronting the hospital administration and staff.

Before commencing the design, the architect should consult in detail with the medical and administrative staffs to find out the policy and procedure which the hospital wishes to continue or introduce in the new building.

Well designed and appointed modern hospitals, strategically located in cities and communities will attract outstanding doctors, administrators, and technicians, and will receive the greatest patronage. Your doctors are loath to settle in areas where hospital facilities are obsolete or lacking.

The design of most of the old, and many of the new, small rural community hospitals is very poor functionally and esthetically. This in most instances can be attributed to the copying of improper and obsolete features from poorly planned buildings.

The typical small hospital is a two-story and basement structure, having an elevator and dumbwaiter. The kitchen, dining room, laundry, storage and boiler room are always placed in the basement; the office, delivery room, nursery and some patient rooms on the first floor; operating room and more patient rooms on the second floor. In some instances both the operating and delivery rooms are on the second floor and use the same scrubup and sterilizing facilities. The laboratory, x-ray, central sterilizing and supply rooms are usually scattered throughout the building. This kind of hospital, because of the necessity for an elevator, two nursing units with two sterilizing rooms, two toilet rooms, two baths, two food serving rooms with dumbwaiter for only a few patients, and the technical and service units scattered instead of consolidated, makes it difficult and expensive to operate.

A new concept is a one-story structure with floor a few inches above the exterior grade for all patient, administrative, technical and service departments, and a basement only large enough

Read at the annual meeting of the Minnesota State Medical Association, St. Paul, Minnesota, May 22, 1946.
Mr. Magney is an architect of Minneapolis who specializes in hospital construction.

for the heating plant. This plant eliminates the elevator, dumbwaiter, exterior and interior stairways except to the basement, food serving rooms, duplicate nursing units and auxiliary services, all of which make a more efficient and economical hospital to operate. This general plan is also advantageous for unit expansion to provide for the growing needs of the community.

It is not my desire to review familiar features and elements of hospitals, but to point out important items, many of which are missing in existing institutions and in plans for contemplated structures. It is hoped that the following comments will be constructed as constructive and will serve as helpful suggestions when formulating programs for the modernizing and extending of existing hospitals and for new plants.

A modern hospital should have:

An emergency receiving and operating room.

A medical records room adjacent to the staff entrance and lounge.

A doctors' "in" and "out" system.

A doctors' visual paging system.

Doctors' dictating rooms in surgical, obstetrical, and clinical suites.

Electrical plug-in receptacles of sufficient voltage in all patient's rooms for portable X-ray apparatus and heating pads.

Alcove in main entrance vestibule for storing visitor's rubbers, overshoes, and umbrellas.

Adequate, properly located, alcoves for storing stretchers and wheel chairs.

Retiring room in connection with the general waiting lobby.

Lavatories in patients' rooms or in connecting service rooms.

Individual clothes closet for each patient.

Adequate, conveniently located, bedpan emptying and cleaning facilities. I have observed bedpans emptied into ordinary water closets and rinsed in patient's bathtub.

Isolation rooms with toilet and shower bath compartment and connecting utility room.

Rooms acoustically treated and equipped with safety devices for temporarily taking care of psychiatric patients.

Visitors' waiting alcoves or rooms on patient and technical floors.

Father or family room on obstetrical floor.

Telephone booths in public lobby and on patient and technical floors.

Private rooms at stations for nursing and technical supervisors.

Nurses' rest and conference room at nursing stations.

Coat rooms on patients' floors for student nurses.

In large hospitals, class rooms on patient floors and in technical departments.

Better scrub-up facilities for female surgery and obstetrical technicians and assistants.

Room for storing anesthesia supplies and equipment and in large hospitals, office for anesthetist.

In large hospitals, surgical recovery rooms.

Room for storing and servicing mobile electric and hydrotherapy treatment units.

Linen chutes from operating and delivery departments to receiving closets in basement.

Cleanup rooms in operating and delivery departments equipped with clinic sinks for disposal of technical refuse, laundry tray with drainboards and wringer for cleansing soiled linen before depositing in hamper, cabinet counter, sanitary waste receptacles, and waste paper receptacles.

General cleaning closets of sufficient size for slop receptors and mopping carts.

Receptor is preferred to slop sink because it can be made large enough to receive pails and mops and have curb low enough for draining the carts into them by gravity.

Room with outside window on patient floors for storing and servicing flowers, equipped with counter cabinet with sink and shelving.

In medium to large hospitals, treatment rooms on patient floors.

In large hospitals, pneumatic tube systems for conveying charge slips from nursing stations, laboratories, pharmacies, surgery, obstetrical, X-ray, and other departments where charges originate, to billing machine at cashier's station.

Rooms for admitting and discharging patients and discussion of credits.

Facilities for cleaning and storing garbage cans.

Oxygen piped from centrally located tanks to a few or all patients' rooms, nurseries, operating, and delivery rooms.

Pediatrics department in medium size and large hospitals.

One of the most essential and most lacking elements in hospitals is the provision of lavatories for hand washing. They should be provided in food preparation and serving rooms, nurseries, labor rooms, patient bed rooms, toilet rooms, utility, and other service rooms.

Lavatories should also be conveniently located in general corridors for doctors' hand washing, preferably placed in small rooms with double acting, self-closing doors, to prevent visitors using them as cuspidors and cigarette and cigar depositories. Incidentally, what a wonderful thing it would be if some ingenious person would develop a drinking fountain that could not also be used as a spittoon.

All lavatories, except those for domestic purposes, should have gooseneck faucets for filling receptacles and hand washing in running water, and those in nurseries, labor rooms, and doctors' use, must be foot-, knee-, or elbow-operated.

In the past, the general practice for medium size and large hospitals was to place the surgical department on the top floor and the obstetrical on next to the top floor, and in small institutions the delivery rooms on first floor and operating rooms on second floor. The central sterilizing and supply room and pharmacy were usually placed in the basement, the laboratory and x-ray department any place where space was available.

The present tendency in medium to large institutions is to place the operating and auxiliary rooms, x-ray department, laboratory, pharmacy, and central sterilizing and supply room on the second floor and the obstetrical department on the third floor. This consolidation of technical units makes it more convenient for the doctors and technicians, simplifies the piping to equipment, conserves labor and elevator service, reduces construction and general operating costs and releases the upper floors for general patient rooms where maximum quiet, light and air is mostly needed.

In small hospitals it is becoming general practice to place technical and service departments on the first floor, which is more convenient for doctors and technicians. It conserves space, labor and elevator service, resulting in reduced operating costs.

The minimum economical nursing unit for mixed, private, semi-private, and ward patient rooms is from twenty-five to thirty beds. Greater economy can be effected by having from two to four nursing units served from one nursing station providing the floor is arranged in wings diverging from the station. By this arrangement one supervisor can administer all units, while if they are remotely located, it would require one more supervisor for each additional unit. It would also reduce the number of floor nurses necessary to take care of the patients during inactive and semi-inactive periods. A recent survey of small hospitals revealed that two employes could be saved by having all the patients on one floor instead of divided on two floors. The consolidation of nursing units not only saves personnel but eliminates duplication of space and equipment and the saving effected in the cost of construction in many instances would be sufficient to provide additional needed facilities that could not otherwise be obtained.

The patient rooms necessarily serving as combined bed rooms, living rooms, and dining rooms, should be large enough for the equipment and permit of all the varied activities of the patients, doctors, nurses, and others and must have adequate maneuvering spaces for stretchers and wheel chairs. They should be placed so the window outlook is attractive and, if possible, oriented to admit desirable and exclude undesirable prevailing winds. The preferred exposure in this section of the country is the south; next is east, then west, and finally north.

Private rooms for either one or two beds should be about 11.5 feet wide by 15 feet deep, four-bed wards 20 feet wide by 15 feet deep, the depths in both being from exterior walls to corridor partitions or closet enclosures at corridor partitions. An individual closet of sufficient size to accommodate clothing, traveling bag and other personal accessories should be provided for each patient. Having all private rooms of uniform size and large enough for two beds gives flexibility to the capacity of the hispital and provides for emergencies.

Every room should be equipped with a lavatory unless a water closet and lavatory compartment is connected to the room or pair of rooms, in which case the water closet should be provided with bedpan cleaning equipment.

While the sanitary service compartments cost more than lavatories in rooms, the additional expense is justified by the better nursing care, reduced labor in bedpan service, and private toilet facilities for the patients.

It has become general practice to store the bedpan and related accessories in the bedside cabinet regardless of whether cleaned in a private compartment or general utility room. This insures individual equipment for each patient, lessens the possibility of cross infection by contact and makes it unnecessary to sterilize the bedpan after each usage, which saves labor and sterilizing costs.

One of the most noticeable changes in hospital technique is the caring for new born babies. Until recent years the general practice was to remove the baby from the bassinet to bathe it in a utility room adjoining the nursery. It is rapidly becoming common practice to bathe a child in its own bassinet, which has been designed especially for that service, equipped with cabinet and drawer for the individual clothing, supplies and accessories.

A combination nurses' work room and doctors' examination and treatment room is placed between two nurseries and made accessible from the general corridor. In small hospitals the service room is placed between the general and premature nurseries, and when the incubators are retained in the general nursery the suspect nursery replaces the premature. In large hospitals, it is customary to have the service room between two well babies' nurseries and another service room between the premature and suspect nurseries. The well babies are brought in the bassinets to the doctors for examination and treatment in the service room and the doctor never enters the nursery unless the incubators are in this room, in which case it would also be necessary for others not on the staff to enter the room. There seems to be a divided opinion regarding this practice, some maintaining that it is objectionable and others that it is immaterial. It is the general practice for doctors to examine the premature and suspect babies in their respective nurseries; the suspect nursery, of course, must have an ante-room with gowning, sterilizing, and cleaning facilities. The modern nursery units are correlated into groups with windows between them for observation; also windows between the service room and suspect nursery. I know, of course, that nurses for the general babies never take care of the suspect babies. All nurseries except the premature and suspect units should have visitors' observation windows with draw curtains or other means of providing seclusion when necessary. The nursery should have oxygen piped from centrally located tanks.

It is generally considered not necessary in this territory to air condition or even mechanically ventilate nurseries for new born babies and very few installations have been made. Whether it is desirable or not is a matter of opinion, but one sure thing—if it is done—it must be done with extreme care. Babies being susceptible to infections and sensitive to temperature fluctuations and drafts, a poor mechanical system would be more detrimental than beneficial. It is necessary, however, to provide mechanical means for adequate controlled heat and humidity. Germicidal ultraviolet lamps for sterilizing the air have been used for some time in nurseries with excellent results and are recommended for your consideration.

In recent years the sizes and appointments of general operating and delivery rooms have become quite standardized for both large and small hospitals, varying from 15 to 16 feet in width and 16 to 18 feet in length.

Rooms for fracture work, because of the specialized equipment, should be at least 2 feet longer.

Cystoscopic rooms usually are made too small—they should be almost as large as standard operating rooms.

Each room should be provided with a water syphonic aspirator, compressed air piping from a compressor remotely located to exclude mechanical noises, oxygen piped from an interconnected tank conveniently located elsewhere for servicing, all terminating in separate wall cabinets for housing valves, gauges, and hose.

There should also be a secondary clock, two x-ray film viewing cabinets, four electric explosion-proof plug-in receptacles, and cabinets for storing supplies, special instruments, and operating table accessories. The floors should be grounded with brass or aluminum grids to prevent explosion.

For general illumination there should be four vapor-proof electric ceiling lights and an electric ceiling operating light which could be of vapor-proof type if the room is properly ventilated, but must be explosion-proof if the room is inadequately ventilated. General and operating room lights should be separately controlled by explosion-proof wall switches.

Doctors' scrub-up rooms in connection with operating rooms are preferably placed adjacent to the general corridor and connected to one or two operating rooms. These should contain at least two knee-, foot-, or elbow-action scrub-up sinks, wall shelf and mirror above sinks, liquid soap and alcohol solution dispenser, secondary clock, and observation window in partition to operating rooms. Sinks should be installed on partitions separating this room from the sterilizing equipment space and be placed far enough apart to provide ample arm space when scrubbing, which also would prevent the doctors' splashing each other.

The sterilizing room in connection with operating rooms should, when possible, be placed at the exterior building wall and be provided with a window and connected with one or two operating rooms. It should have a cabinet counter with a sink placed at the window side of the room. At the opposite side of room, concealed in an equipment space placed between this room and the scrub-up room, there should be an autoclave pack

sterilizer, autoclave instrument sterilizer, double water sterilizer, water still, and a blanket and solution warmer, all steam operated.

Doors between scrub-up, sterilizing and operating rooms and corridors should have vision panels and be hung on double acting spring hinges, making it possible to open them in either direction without touching with the hand. These should be self-closing, and the rooms illuminated by vapor-proof electric ceiling lights controlled by explosion-proof wall switches.

The equipment space between operating, scrub-up, and sterilizing rooms should be of ample size for receiving and servicing the sterilizing and other equipment, recessing of operating room clocks, viewing, aspirator, compressed air and oxygen cabinets. Air in the space should be mechanically exhausted to remove the heat and vapor generated by the equipment. Space permitting, it is a good place to house the ventilating or air conditioning equipment for the operating room.

It is considered good practice to have the delivery and their scrub-up and sterilize units identical with the operating and related rooms.

It is generally considered that the best system for heating a hospital is steam or hot water, or a combination of both, using steam for air conditioning and ventilating coils, sterilizers and kitchen and laundry equipment, and hot water for room radiators and convectors. Hot water has come more and more into favor because it is a more uniform heat, is more easily controlled, and it is possible to conceal most of the piping. For maximum economy and comfort, the system must be controlled by either room or zone thermostats. Individual room control is the most selective, but more costly to install and to maintain. The oriented zone controls are less costly to install and maintain, give satisfactory results, and eliminate to a large extent the human element in the controlling.

There is considerable difference of opinion on the needs for and methods of ventilating and air conditioning hospitals. Fortunately, the minimum requirements for mechanical ventilation of inside sanitary rooms and rooms where under certain conditions anesthetizing gas is used, is fixed by law, but mechanical ventilation of any other kind of space is not mandatory. In most hospitals, the patient rooms have no mechanical ventilation and very few have any completely air conditioned rooms. I question the necessity or even the desirability in this part of the country of cooling patient rooms except a few requiring absolutely controlled atmospheric conditions, but I do favor properly ventilated and humidified rooms. The reasons for my indecision are: (1) the average summer has only a few extremely hot, humid days and the majority of doctors, patients, and nurses prefer to have the windows open in nice moderate weather; (2) will the benefits of mechanicaly cooled air more than offset the shock when arriving and leaving the hospital in warm, humid weather? (3) will the cost and maineanance of the mechanical installation be justified by the questionable benefits derived?

If a ventilating or air conditioning system is installed, it should be of a type that will deliver only fresh, clean, treated air directly to each patient room. No air should be recirculated, but mechanically exhausted directly from the room or through connecting service rooms. A recirculating system will distribute foul, contaminated, odorous air to all rooms connected to the system.

One of the most simple and effective systems for ventilating a hospital is to deliver filtered, heated, and humidified fresh air to all general, technical, and service corridors and exhaust a lesser amount through adjoining rooms to the atmosphere.

Keeping the corridors under pressure and exhausting through rooms will prevent to a large extent the foul, contaminated, odorous air entering the corridors.

Toilets, utility, and other sanitary rooms should have at least ten air changes per hour, accomplished by obtaining fresh air, when possible, from the corridors and mechanically exhausting to the atmosphere.

Operating, delivery and auxiliary rooms, although not required by law, should be mechanically ventilated and, when possible, completely air conditioned with systems changing the air at least twelve times per hour. For ventilating only, the fresh air should be cleaned, heated, and humidified, and for air conditioning it should be also cooled and dehumidified. The treated air should be discharged directly into the operating and delivery rooms—half the amount exhausted near the ceiling and the rest near the floor. Some should be exhausted directly and the rest through the scrub-up and sterilizing rooms; then into the sterilizing equipment space where it will remove

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THE SURVEY OF HOSPITAL FACILITIES

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HOSPITALS in Minnesota are being asked to participate in two surveys. The first is sponsored by the Commission on Hospital Care in all the states and territories of this country, and the second was developed by the American Academy of Pediatrics for nation-wide conduct.

The first study will be a detailed survey of existing facilities to include all general and specialized hospitals, sanatoria, maternity homes, nursing homes and homes for the aged providing chronic and convalescent care. This survey will be conducted in accordance with the methods of the Commission on Hospital Care, a privately endowed public service agency set up by the American Hospital Association. This commission, composed of physicians, hospital administrators and nurses, has had the thoughtful assistance of full-time specialists in the development of an authoritative method for conduct of the study. This method must be used in all states of the nation if the objective of the study is to be attained. The objective is the development of a uniform and reliable body of information for the planning of hospital services for all types of patients in all areas of the country.

In addition to the Commission on Hospital Care (CHC) study, the American Academy of Pediatrics (AAP) is sponsoring a study which covers hospital services for children as well as medical and dental care and public health programs. The AAP study is sponsored in Minnesota by the State Medical Association. It is seeking only supplemental information on hospital services which is not covered by the CHC study. Both the American Academy of Pediatrics and the Commission on Hospital Care have urged that this second study be integrated with the primary study of hospitals so that duplication of effort may be eliminated. To this end the work methods have been coordinated on the national level, and the AAP schedules of information are prepared with section numbers corresponding to those of the CHC study. The hospital superintendents will find the schedules for this second study enclosed in the same cover with CHC schedules.

Ultimately, two factors will control the success of this survey of hospital facilities: completeness and accuracy! The factor of completeness will be satisfied only if all institutions participate. The factor of accuracy will be satisfied only if all institutions give correct information on all applicable sections of the schedules. Work plans for conduct of the survey are being prepared to satisfy as nearly as possible the requirements of these factors.

Schedules of Hospital Information

The schedules of hospital information will be mailed to approximately 450 institutions as rapidly as possible during the period from May 10 to May 30. The general plan for the mailing and collection of schedules is as follows: The institution will receive one copy of the schedule which is to be used as a work copy in preparing the first draft of information. The institution is to return this copy as soon as completed to the state survey office, Minnesota Department of Health Building, University Campus, Minneapolis 14. After review and approval, the state survey office will return this draft of the schedule to the institution for completion as may be necessary and for retention as the institution permanent copy. At this time a second copy of the schedule will be mailed to the institution for transfer of the final information and return to the state survey office. This final copy of the schedule will be sent to the Commission on Hospital Care, Chicago, for tabulation and preparation of tables of information.

A brief perusal of the schedule will convince the hospital superintendent that the completion of the information will involve some work. This should be recognized at the start and a plan made to accomplish the job in a prompt and efficient manner. The institution superintendent is responsible for the completion of the schedule, but for the preliminary study, as well as in the actual preparation of the information, it is suggested that the work copy of the schedule be separated into appropriate sections for assignment to the

Read in symposium at the annual meeting of the Minnesota State Medical Association, Saint Paul, Minnesota, May 22, 1946.

various department heads such as finance, housekeeping, nursing, medical records, et cetera.

Regional Meetings of Hospital Superintendents

Plans are being made to provide every assistance possible to the institution. This assistance will begin with regional meetings of the superintendents in seven convenient cities of the state. The mailing of the schedules will be timed to permit a period of one week to ten days for study in preparation for the meeting. Hospital superintendents are urged to attend the meeting of their choice and bring the schedules and questions with them to the meeting. It is suggested that the questions be written down at the time they arise so that none will be overlooked. Each hospital superintendent will receive an invitation to the regional meetings and he is urged to return promptly the postcard indicating the meeting chosen. All meetings will start promptly with a luncheon for which there will be a nominal charge.

Later on, it is planned to provide a field staff for visits to hospitals to interpret the study methods and purpose. This staff will be composed of the hospital licensing staff and the field advisory nurses of the Minnesota Department of Health. These field representatives will work on a regional basis and will make visits to the hospitals and related institutions, as necessary, during the period of preparation of the information from June 1 to September 30, 1946. If a question in the schedule is not clear, the institution superintendent should not wait for a visit from a field representative. These questions should be submitted immediately in writing to the survey office. It is important that the schedules of information be completed as promptly as possible.

Review of Schedules in Survey Office

It should be emphasized that the value of the completed survey will depend largely on the accuracy of the information submitted. Because of the complexity of the schedule of information, it is desirable to review the information to insure uniformity of interpretation of the questions in the schedule. This review will be made in the state survey office on the work copy of the schedule which the institution superintendent will send as soon as completed. If necessary, the work draft will be returned to the institution for further preparation before completion of the final copy.

Report on the Survey to Be Prepared

As the survey of existing hospital facilities progresses, a simultaneous study will be made of the social, economic, geographic and population factors related to the need for additional hospitals in the state. The services of a statistician are being obtained to supervise the collection and study of this information. Combined with the existing hospital facilities data, this information will be used to prepare a report by the Hospital Planning and Survey Committee appointed for the State of Minnesota by Governor Edward J. Thye. This report will be made available to the superintendents of all hospitals, to physicians and other groups for the planning for hospital services.

MODERN HOSPITAL CONSTRUCTION

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the generated heat and vapor, and then discharged to the atmosphere. The operating and delivery rooms should be individually temperature controlled.

If the air is changed at least twelve times an hour, and if the operating lights cannot be turned on unless the ventilating and air conditioning system is in operation, according to good authority there should be no danger of explosion caused by vapor-proof light fixtures. In rooms not having the required number of air changes, explosion-proof type operating lights must be used.

Food preparation and serving rooms should have the air mechanically exhausted to remove heat and odors, also to prevent odors from entering other rooms. Air for laboratories and autopsies should be extracted by separate systems.

Hospital buildings—large and small—should be fireproof, constructed of durable materials to assure maximum safety, and minimum depreciation and maintenance. The windows should be of type, sizes and placement to provide desired light and controlled ventilation. The general design should be modern, simple, dignified, and appropriate for the institution.

MODERN TREATMENT OF EMPYEMA

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PERHAPS it might be well to preface any discussion of the modern treatment of empyema by the statement that there has been no change in the fundamental principles underlying its treatment for many years. In fact, a number of the lantern slides used in this discussion were made for a presentation before the Minnesota State Medical Society in 1937, which was published in MINNESOTA MEDICINE in August of that year. The empyema picture, however, has changed considerably, as has the emphasis on certain aspects of its treatment, and it is these variations rather than any new method or technique which I shall discuss with you today.

Empyema develops almost invariably as a secondary complication to some other process. The causative factors in its development may be listed somewhat as follows:

1. Pneumococcic pneumonia.
2. Other types of pneumonia.
3. Infectious disease: influenza, scarlet fever, measles, tonsilitis, typhoid fever.
4. Bronchiectasis.
5. Pulmonary abscess.
6. Pulmonary tuberculosis.
7. Pulmonary infarct.
8. Penetrating wounds of the chest.
9. Pericarditis.
10. Diseases of the abdomen: subphrenic abscess, abscess of the liver.
11. Perinephritic abscess.

The specific etiological agents causing empyema vary considerably with the epidemics of respiratory disease and vary from season to season as well as from year to year. They include the following:

1. Pneumococcus.
2. Staphylococcus.
3. Streptococcus: hemolytic, viridans.
4. Mixed organisms: aerobic, anaerobic.
5. Mycobacterium tuberculosis.

The behavior of a given empyema may vary widely depending upon the causative organism. With the development of specific chemotherapeutic agents, this knowledge has become all the more important, as the selection of the proper drug must be governed by a knowledge of the type of organism present.

The fundamental principles underlying the treatment of empyema have been recognized for many years and remain essentially unchanged. They may be listed as follows:

1. Adequate drainage of the pleural abscess.
2. Avoidance of early pneumothorax before the formation of adhesions or exudate has stabilized the mediastinum and fixed the the lung to the chest wall, forming a local pocket.
3. Rapid sterilization and obliteration of the abscess cavity.
4. Maintenance of proper nutrition of the patient.
5. The avoidance of chronic empyema.

No matter what variety of treatment is chosen it must meet the fundamentals outlined above if it is to be consistently successful. The matter of maintenance of the patient's nutrition is all too frequently overlooked. The increased metabolism brought about by the fever and the heavy protein loss from the extensive suppuration must be compensated for by a diet adequate to more than meet the losses incurred. It is well to remember also that few cases of empyema are cured until the pleural cavity is completely and permanently obliterated, although the newer chemotherapy enhances the chances of cure without obliteration of the pleural space.

Treatment of empyema may be of three general types:

1. Aspiration by a needle with or without irrigation, or instillations.
2. Closed drainage—tube drainage.
   - Intercostal
   - Transcostal
     - Without irrigation
     - With irrigation
       - Saline
       - Anticoagulants

With irrigation (cont'd)
Fibrin solvents
Sulfonamides
Penicillin
Syphonage
Irrigation and suction.
Tidal irrigation.
Tidal irrigation and suction.

3. Open drainage.

Such an array of methods may leave the physician somewhat in doubt as to the proper one to select for the individual patient. Fundamentally it is not the method but its proper utilization which is important. Recovery in many individuals might be brought about by the use of any or all of the methods if proper attention were given to details. One should choose the simplest method which will produce the desired result, rather than become wedded to any one particular type of procedure. The more complicated and exacting types of treatment may prove perfectly adequate in a large, well-staffed hospital whose personnel is thoroughly trained in all of the details necessary for success, but the same method may give very disappointing results in the hands of the busy practitioner who has so many other demands on his time and energy that he cannot devote all of his time to making one complicated gadget work.

Changes in the Empyema Picture

The past few years have seen definite changes in the clinical picture of empyema, brought about largely through the therapeutic, prophylactic and indiscriminate use of chemotherapy. These changes include the following:

1. Reduction in the normal incidence of empyema by early control of the severe lung infections.

2. The survival of a greater number of very seriously ill individuals who live to develop pleural complications.

3. The formation and persistence of thin serous effusions which absorb slowly.

4. The deposit of fibrin which binds down and fixes the lung.

5. The masking of symptoms so that pockets are missed completely.

6. Late development of pleural abscess after apparent recovery.

Some of our difficulties arise from the promiscuous use of sulfonamides by self-medication or as passed out indiscriminately for "colds," in which the action of the chemotherapeutic agent so masks the original picture that no clinical help can be obtained from the history. The problem of determining whether a given clear effusion is the result of tuberculosis or an unrecognized malignancy or merely an acute pleural infection more or less submerged by specific therapy presents a differential problem which is not easily solved. The effusions complicating pneumococcic infection of the lung treated extensively by sulfonamides tend to be clear, serous, of low cell and high fibrin content, and sterile to ordinary culture methods. They do not absorb readily, the fibrin becomes deposited within the pleural cavity, binding down the lung and forming multiple pockets. After the concentration of the sulfonamide has become reduced and its effect has worn off, bacteria present in a state of more or less suspended animation slowly regain their virulence and produce a late purulent effusion. To carcinoma and tuberculosis previously recognized as causes of sterile pleural effusion must now be added the sulfonamides. Penicillin is less of an offender in this way as it does not enter the pleural cavity in concentrations adequate to control infection. With the use of penicillin locally injected into an empyema cavity, however, we again encounuter the clear effusion, slowly clearing and of high fibrin content, likely to coagulate on pleural surfaces.

Aspiration

Aspiration in the treatment of empyema has both diagnostic and therapeutic possibilities. Diagnostically it enables us to determine (1) the causative organism, (2) the character of the exudate and its periodic change, and (3) the limits of the empyema pocket. Therapeutically it possesses distinct merit, but it has its disadvantages, failures and shortcomings, not the least of which is the fact that its use can become a fad, frequently used in an unintelligent and inadequate manner. It has its place in the treatment of all empyemas but its use as a sole therapeutic procedure is seriously limited by a number of facts. The best results from its use as a sole therapeutic procedure are usually obtained (1) in infants and small children, (2) in the treatment of early empyema, (3) in patients with low vital capacity,

(4) in the treatment of tuberculosis empyema, where external drainage of any type is to be studiously avoided, and (5) in the gradual removal of large accumulations.

The field of usefulness for aspiration as a single treatment for empyema has been extended in the following conditions: (1) in empyema of the newborn; (2) in infants and small children; (3) in a clear effusion (potential empyema) following pneumonia under intensive chemotherapy; (4) in secondary infection empyema, particularly staphylococcic in tuberculosis patients being treated by artificial pneumothorax; (5) in tuberculous empyema without bronchial fistula, but complicated by secondary infection with organsims susceptible to modern chemotherapeutic agents; and (6) in extrapleural empyema.

Empyema of the newborn, previously such a fatal condition, may now respond to frequent aspirations, instillation of penicillin, and rapid expansion of the lung. A number of empyemas in infants and small children, particularly those due to the pneumococcus and staphylococcus, may be controlled by similar measures. Secondary infection empyema complicating artificial pneumothorax for the control of pulmonary tuberculosis may now be controlled by frequent aspirations, irrigations with saline, and instillation of penicillin or sulfonamide solution, at times without loss of collapse. Again the infection may be brought under control but with the loss of some of the effective collapse formerly maintained. In similar manner secondary infection in an extrapleural pocket surgically created for the collapse of a tuberculous lung lesion may be controlled by the judicious use of aspiration, irrigation, and penicillin or sulfonamide instillations, and the collapse maintained by extrapleural pneumothorax or oleothorax. Aspirations must be carried out frequently, however, in order to bring about such results, daily if necessary, and must be quite complete and supplemented by irrigations with sterile saline to remove all sediment and unreachable fluid by dilution. If the fluid is of high fibrin content the injection of sodium citrate in amounts sufficient to render the residual fluid incapable of coagulating may be of value.

The development and persistence of a clear effusion following pneumonia in the patients intensively treated with sulfonamides or penicillin (potential empyema) offers a golden opportunity for successful treatment and obliteration of the pleural space by aspiration alone before the effusion becomes purulent. The absorption of fluid by the damaged pleura is a relatively slow process. Fibrin is deposited steadily and definite fixation of the collapsed lung is to be expected if it is permitted to remain *in situ*. The temptation to discontinue aspiration too soon, when the fluid is clear or only slightly cloudy and small in amount, in the hope that the patient will absorb the remainder, is one which must be combated energetically. We know by sad experience that these effusions do not absorb readily and that they remain dormant for some time until the effect of the chemotherapeutic agent has worn off, and then a number of them become purulent and chronic.

Certain other dangers and handicaps or complications to continued aspiration must be recognized and appreciated if this type of treatment is to be used. If air is allowed to enter the pleural cavity through the unguarded needle during aspiration additional collapse of the lung will occur. Trauma to the lung by too deep puncture or by scratching the lung with a long beveled needle may result in air leakage and accidental collapse of the lung (accidental pneumothorax). This is undesirable in the aspiration treatment of an effusion. Only a short beveled needle, or a cannula of a Potain type should be used for aspiration, and deep puncture is always to be avoided. Repeated needling of the pleural cavity may be followed by pleural bleeding from injury to intercostal vessels or to the lung itself with additional fibrin deposit or clotting to interfere with later aspiration or to be a factor in binding down the lung. The dangers of chest wall contamination following repeated needling must be borne in mind. This is particularly likely to develop with tuberculous fluids or putrid infections and may result in chest wall abscess, cellulitis or sinus formation.

One of the chief dangers in using aspiration as a sole treatment for empyema lies in continuing it beyond the stage when it is accomplishing the desired results. If difficulty is encountered in obtaining fluid, or if it can be obtained in small amounts only at various puncture sites and complete evacuation of the pocket cannot be obtained, or if the patient is not responding adequately to this type of treatment, another should be substituted promptly. The physician should

not permit himself to become so wedded to one type of treatment that he will not recognize the indications for substituting another one. It is no crime to switch from the aspiration to a closed or open type of drainage at anytime that it is indicated, but it is nothing short of criminal to persist in an unsatisfactory type of treatment and to permit the lung to become bound down or a chronic pocket to develop, by the persistent use of a pet type of treatment which is not accomplishing the desired results. We are already seeing chronic empyemas and residual pockets developing under the very eyes of the attending physician.

Closed Drainage

Closed drainage may be substituted for aspiration at almost any stage of the treatment while the fluid is still thin enough to run or be aspirated through a catheter. It possesses all of the advantages of aspiration plus the additional advantage that it does not require repeated puncture of the chest wall and that aspiration can be done more completely and at more frequent intervals than through a needle. Aspiration, irrigation, instillation and even continuous suction may all be utilized by this method. The old argument that it does not remain closed is no longer tenable. If the skin incision made for the insertion of the trocar and cannula is no longer or even slightly smaller than the diameter of the trocar, and if the catheter used fits the cannula snugly, an airtight seal is obtained which will remain airtight for a long period of time if the catheter is tied in place at the skin surface with cross-ties of heavy silk so that it cannot move in and out of the chest wall. The author has had numerous instances where a catheter so used has maintained an airtight seal for weeks and months, even in the presence of tuberculous infection.

The catheter method of drainage permits rapid removal of pus and permits the irrigation and washing out of sediment and fibrin or clots as frequently as is necessary, and affords a means for the instillation of a fibrin solvent, a sulfa suspension, or a penicillin solution to more rapidly sterilize the pocket. Where it is desirable to maintain negative pressure in the pocket the use of a simple syphon system is as foolproof as any and requires less attention than more complicated mechanisms. If necessary, continuous negative pressure by regulated motor suction may be applied to maintain constant drainage and expansion of the lung. With catheter drainage as with aspiration alone a small pocket which is not completely healed at the time the catheter is removed is likely to remain. This may heal spontaneously but may refill and be the source of a small, chronic empyema pocket. Rib resection to bring about obliteration of this pocket is frequently advisable.

Open Drainage

Open drainage in empyema treatment has always had its advocates, and justly so. Where indicated it is probably the most foolproof and most satisfactory type of empyema drainage. It has no place in the treatment of early empyema, for a thin effusion, for the patient whose lung is not bound down or the pocket localized, or for the treatment of uncomplicated tuberculous empyema. For localized abscess pockets, for the extensive empyema with thick creamy pus, for the patient with large fibrin deposits, and for the treatment of residual pockets after aspiration and catheter drainage, it has no equal. When so used it carries with it little or no risk and gives the best chance of complete obliteration of the empyema space. Its use permits breaking down of accessory pockets and removal of fibrin masses, and a complete removal of all exudate from the pleural cavity. The drainage, however, must be dependent, free and adequate, and must be maintained until the pocket is obliterated for complete results.

The wartime experience with massive clotted hemothorax has again revived interest in the almost forgotten operation of decortication. Its early use in this condition, before fibrous tissue replacement of the fibrin has occurred and a plane of clearage can still be readily established, has given very satisfactory results. There are similar indications for decortication in empyema patients who present a clotted fibrinothorax from empyema, a condition now encountered more frequently in patients following intensive chemotherapy. In such circumstances decortication performed early may bring about expansion of the lung and prevent serious crippling of the lung which otherwise would follow.

CLINICAL-PATHOLOGICAL CONFERENCES

THE PRACTICAL APPLICATION OF NEW DEVELOPMENTS IN BLOOD GROUPS AND TYPES

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This represents an attempt at summarizing and simplifying the features of blood groups and types which have practical applications in the practice of medicine. It is essential for us to review certain basic features of these blood elements before entering upon a discussion of their more important clinical uses in females, newborn infants, and males.

General Considerations

Although other groups and types of blood are known or will be discovered, the chemical substances in the red blood cells A, B, O, M, N, P, Rh_o, Rh′, Rh″, Hr_o, Hr′, and Hr″ cause 98 per cent or more of our transfusion and pregnancy difficulties. Most of these factors have been proved the cause of transfusion reactions and pregnancy sensitization and its complications. It would seem that only time is necessary before all of the list will be indicted on both counts. The important differences between these antigens are:

1. The A and B groups are practically always associated with natural agglutinating antibodies occurring in the serum while the other types have no natural antibody counterparts.

2. The A, B and, to a lesser degree, the Rh red blood cell substances are much more likely to cause sensitization and reactions when transfused into patients with other blood groups and types. Only rarely are these reactions due to other blood types.

3. Sensitivities to red blood cell factors developed in the pregnant woman are in 92 per cent of the cases due to the Rh types, while the majority of the remainder are due to A, B and Hr factors.

4. Sensitization to the A and/or B groups is easily recognized by the old and simple agglutination test, while sensitivity to the Rh and Hr types does not always show up by this method but must be demonstrated by two equally simple new methods,[4] the conglutination and blocking tests or their equivalents[2].

Application to Females

The two methods of sensitization of females include medical injections of blood products and pregnancy. Small girls can be sensitized to the Rh factor by as little as 30 c.c. of whole blood injected intramuscularly for measles prophylaxis. This may result in their never being able to have a live child of their own, or they may die from an improperly tested blood transfusion later in life. This type of sensitization in females demands the immediate recognition by all physicians as a real hazard to their patients' future welfare. This danger may even include the injection of serum of other animals which contains A and B substances. Sensitizations of women carrying a fetus of a different blood group or type are mostly due to the Rh types and rarely due to A, B, and Hr. The evidence of the sensitization of a pregnant woman to the red blood cell factors is generally recognized clinically in the form of a stormy pregnancy, stillbirths, the birth of an infant with erythroblastosis fetalis, or a transfusion reaction. Theoretically rare, abortions may be related to incompatible red blood cell elements. The rules for laboratory recognition of sensitization includes:

1. All pregnant women should be Rh typed. The 15 per cent which are Rh negative should receive special attention.

2. At present all three laboratory procedures, agglutination, conglutination, and blocking tests or their modified equivalents, should be run routinely on suspected patients for the detection of sensitization.

3. This laboratory evidence of sensitization may rapidly disappear from the blood following pregnancy and is frequently gone two months postpartum, yet the patient remains sensitized.

4. Intrauterine sensitization can nearly always be detected by one or more of the three laboratory tests mentioned.

5. The occurrence of positive tests during pregnancy may be the result of a previous pregnancy and the present fetus may not develop erythroblastosis fetalis.

6. Increasing titers of the three tests during a given pregnancy must be interpreted with caution. Some authorities[1] feel that this phenomenon indicates the existence of erythroblastosis fetalis and that a rising agglutinating titer to Rh factor is an indication for premature delivery of the infant to save it from erythroblastosis fetalis.

7. The occurrence of a positive blocking test during pregnancy tends to have a bad prognostic significance for the infant.

8. The titers of the three blood tests are likely to be highest one or two weeks after delivery.

9. The ordinary agglutination and cross match tests are frequently negative in the common (92 per cent) Rh type sensitization.

10. The conglutination and cross matching tests with red blood cells suspended in serum instead of saline are absolutely essential before there are blood transfusions in Rh negative women who have given birth to full term infants.

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11. In cases of doubt, Wiener's biologic test for transfusion compatibility can be used. Here 50 c.c. of blood is given and, if at the end of half an hour there is no rise in temperature or increase in the icterus index of the patient's serum, any amount of the blood may then be given.

Future practical advances in our knowledge of blood types are likely to be productive in the field of prophylaxis or therapy of blood type sensitization. At present, Wiener[5] has demonstrated the efficacy of using strong antigens such as typhoid and pertussis vaccines repeatedly throughout pregnancy to prevent the development of erythroblastosis fetalis. The test appears to be useless in a patient who already has demonstrable antibodies in her serum but may be efficacious in others. Once an Rh negative woman has given birth to two or more infants with fatal congenital hemolytic disease and it is demonstrated that her Rh positive husband cannot give rise to an Rh negative infant (homozygous), then the dangers of additional pregnancies should be weighed against the unlikely chances for a viable infant. The advantages of contraception, sterilization, abortion, and/or sexual abstinence should be made clear. Of course, all sensitized women should be warned of the dangers of improper blood transfusions.

Application to Infants

Erythroblastosis fetalis has been classified on the basis of its clinical manifestations in four forms: hemolytic anemia of newborn, icterus gravis neonatorum, hydrops fetalis, and the most recently described icterus neonatorum precox. The disease is generally clinically recognized through (1) the appearance of jaundice at the time of birth or within the first forty-eight hours (later it is confused with icterus neonatorum), (2) unusual pigmentation of the vernix caseosa, amnionic fluid, and placental membranes, (3) weakness, (4) pallor, (5) edema of peripheral tissues, (6) stillbirth, and (7) a history of previous erythroblastic infants. The laboratory aids to recognition include (1) anemia, (2) erythroblasts in excess of 10 per hundred white blood cells, (3) the increased icterus index, (4) demonstration of red blood cell factor antibodies (anti-Rh in 90 per cent) in the serum of the mother or infant, and (5) the blood groups and types of the family. The clinical and laboratory manifestations of this disease are so varied that one should be extremely cautious in insisting upon any one or any combination of the various means of recognition of the disease. It is entirely possible that as many as 60 out of 10,000 deliveries have a mild form (icterus neonatorum precox) of this disease, 95 per cent of which are due to A and/or B sensitivity.[3]

The treatment of erythroblastosis fetalis consists primarily of preventing death as the result of anemia. Many infants are undoubtedly saved by the immediate transfusion of Rh negative group 0 blood. An average newborn infant has approximately 250 c.c. of blood so that, if two transfusions of 75 c.c. each can be given within the first twenty-four hours or sooner if indicated, the infant should be fairly safe from this cause of death. Rh negative blood of the same group as the infant or the mother's red blood cells washed twice with saline and resuspended generally in a more concentrated form in saline are excellent. Rh positive blood is the last choice. If the infant's red blood cell count does not fall below 3,000,000, a blood transfusion may not be necessary. Red blood cell counts, twice daily, are indicated for the first ten days. At present there appears to be no way of preventing deaths as the result of brain (kernicterus) or liver destruction or by internal hemorrhages which rarely occur in this disease. Cesarian section two weeks before the expected date of birth has lost favor in the opinion of some and is strongly advocated by others.[1] If Wiener's theory[6] is correct, that certain forms of erythroblastosis fetalis are due to A and B factors and that these factors are milked into the infant's blood stream during labor, then it would seem that cesarian section may prove lifesaving in this small group of cases providing they can be recognized in advance of labor. Since natural antibodies occur in the blood for the A and B factors, it is more difficult to determine whether the mother has been sensitized to them. The titer of her anti-A and/or anti-B agglutinins may be so high as to amount to presumptive evidence of the sensitization. The sensitized mother's antibodies occur in her milk so that breast feeding is absolutely contraindicated.

Application to Males

The blood groups and types are important to the male in three entirely different fields: (1) danger of multiple transfusions, (2) proof of nonparentage, and (3) the demonstration of zygosity. It has been variously calculated that from 5 to 20 per cent of Rh negative males (or females) have been sensitized to the Rh factors by multiple transfusions. Rh typing of all recipients (male and female) of blood transfusions is mandatory to prevent sensitizing the Rh negative individuals to Rh positive blood and preventing serious transfusion reactions in those already sensitized. This sensitivity to the Rh factors may not show up in tests in which the red blood cells are suspended in saline, thus necessitating a routine use of a suspension of the red blood cells of the donor in neutral serum (his own serum will do) and mixing this suspension with the undiluted serum of the recipient.

A wrongly accused man now has a 45 per cent chance[7] of proving nonparentage, a dispute which has been brought to the laboratory frequently since the last war. All of the various blood factors listed above are inherited from the parents. The occurrence of any of the factors in a child which is not found in the mother or the accused man immediately eliminates him as the father. There is no scientific means of proving parentage.

The problem of homozygosity or heterozygosity is very important to the majority of married couples who have had a baby with hemolytic disease of the newborn. It is well established now that if the husband is heterozygos and can give rise to Rh negative children, then 50 per cent of the offspring of the couple who have had a previous erythroblastic infant can be expected to be free from the disease. Additional pregnancies may then be advised. Whereas, if the man is homozygos, all of his offspring will be Rh positive and once his sensitized Rh negative wife has delivered two or more infants with fatal erythroblastosis fetalis, the chances of a viable offspring of this mating is unlikely. The he-

terozygos trait can be recognized by finding an Rh negative child among the living children of this couple or an Rh negative parent of the man. An Hr typing of the man, using difficult-to-obtain anti-Hr serum, may in itself virtually prove the homo- or heterozygosity of the man.

Summary

This has been an attempt to summarize briefly the more important clinical applications of the present-day knowledge of blood groups and types. The discussion has been arranged according to its separate relationship to females, infants, and males. The knowledge of blood groups and types has progressed to the point where clinical and laboratory procedures can solve most of the diagnostic problems which arise in connection with complications due to blood factors in blood transfusions and pregnancies. Future important progress is to be looked for in the field of therapy of these conditions.

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SUPERIOR PULMONARY SULCUS TUMOR
(Pancoast Tumor)

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Clinical History: E. H., male, aged thirty-eight years, a lithographer by trade, was admitted to the hospital on January 9, 1945, complaining of pain in the right arm up to the elbow joint and in the right shoulder.

In May, 1944, he felt a "kink" in the small of his back as he was getting out of his automobile. As the pain persisted, he consulted a physician who treated him for arthritis. Having obtained no relief after two months of treatment, he consulted an osteopath who gave him treatments for misplaced ribs. After about three weeks, the pain became worse. He returned to the physician, who then gave him three intramuscular injections, probably of novocaine. This gave him permanent relief from his back pain. In October, 1944, he developed pain in his right shoulder. In three weeks, this pain had extended down in the right arm and remained there up to the time of admission (January 9, 1945). He had tried heat treatment and received bee venom injections without relief of the pain. The pain was so severe that it would wake him up frequently at night. At times, he had a burning and tingling sensation. It went down the forearm on the posterior part and involved the hand and the last three fingers. It was found that his grip in his right hand was weak, and he could not manipulate objects very well. He had no pain in any of the other extremities.

His past health had been fairly good. He had had measles four times; the last time, he developed a cataract in the left eye. He had been blind in this eye ever since. He denied having had venereal diseases. He did not drink. He smoked about fifteen cigarets a day. He had had no operations or accidents. He had lost about 20 pounds since the present illness began. His appetite was fairly good.

Presented at the medical staff meeting of the Charles T. Miller Hospital, Saint Paul, Minnesota, May 7, 1946.
From the pathological laboratory of the Charles T. Miller Hospital, Kano Ikeda, M.D., Pathologist.

On physical examination, the patient was found to be fairly well developed and fairly well nourished. He had a blind left eye with a visible cataract. A visible mass was noted and palpated in the right supraclavicular space. The blood pressure was 162/92. The heart was normal. The lungs, on admission, were clear to percussion. The Murphy percussion over the back elicted pain over the right shoulder. The abdomen was negative. The triceps reflex was absent and the biceps was exaggerated, in the right arm. His right hand exhibited atrophy of the first dorsal interosseous muscle. The fingers of the right hand appeared glossy and tapering. There was tenderness over the right brachial plexes (Fig. 1).

The hemoglobin was 89 per cent. The red blood count was 4,090,000 per cubic millimeter. The white blood count was 15,000 per cubic millimeter. The urine showed albumin one plus, otherwise was negative. The spinal fluid showed a pressure of 6 millimeters and, on jugular pressure, it rose to 9 millimeters. The cell count was 30 per cubic millimeter. The total protein was 62 milligrams per cent. The colloidal gold curve was 33221000. The Kolmer Wassermann was four plus positive. The patient received a course of deep radiation therapy over the right neck and shoulder and was discharged on January 25, 1945. He was subsequently admitted to the Ancker Hospital and later to the Cancer Hospital.

Dr. Harold O. Peterson: A roentgenogram was taken primarily to demonstrate the right shoulder and clavicle. These bones were normal. However, there was a destructive lesion involving the posterior ends of the first and second ribs, and some destruction of the inferior border of the transverse process of the first thoracic vertebra, all on the right side. There was a soft tissue shadow which came down into the lung like a cap sitting over the apex, a dense area, which together

with the bone destruction and soft tissue shadow, was a very characteristic x-ray sign for the so-called Pancoast tumor. Pancoast was a radiologist and, for that reason, most roentgenologists are familiar with this

Fig. 1. Note fullness of the right neck due to tumor infiltration and atrophy of the right shoulder.

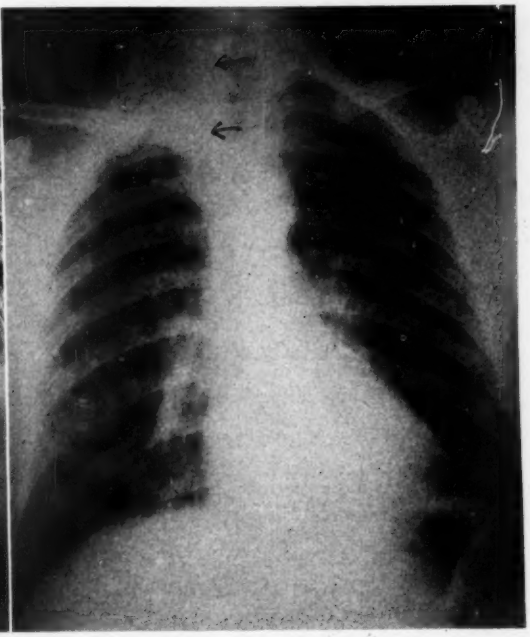

Fig. 2. Mass occupies the right apex, with destruction of the first and second ribs posteriorly and transverse processes of the corresponding spine on the right side.

condition, although it is not very common. He called it a superior pulmonary sulcus tumor and felt that he was describing a new entity. I believe most people consider that it is a primary carcinoma of the lung. However, it differs from the usual form of primary carcinoma of the lung in that it actually extends through the chest wall and destroys ribs and extends up and infiltrates into the soft tissues of the neck. It can be diagnosed by having a shoulder film, in which the film is placed crossways to include the spine. Such a film will show the apex of the lung as well as the shoulder. With that film or a chest film, a diagnosis can be made, although the shoulder film tends to demonstrate the bones a little better; but on the routine chest film, the dense mass may be seen filling the apex of the lung and producing rib destruction. We have another film taken about six months later (Fig. 2). The destruction has extended. It has gone around the ribs, and the first and second ribs are destroyed for a considerable distance. It has extended into the vertebra and completely destroyed the pedicle of the second thoracic vertebra, and is gouging into the bodies of the vertebra above and below.

Dr. Kano Ikeda: Autopsy was done after embalming. It was difficult to do a good job of exploring the neck, the spine, or the back of the body. It was difficult to remove the tumor entirely because it infiltrated out of the thoracic cage into the neck, deeply and widely. The fixation of the tissues of the neck by the embalming fluid made it impossible to do a satisfactory dissection through the limited space and approach, that is, through the upper opening of the thoracic cage. Aside from the tumor at the superior pulmonary sulcus, the important findings were: (1) a hypertension heart weighing 520 grams, and (2) a distended urinary bladder (cord bladder) due probably to the infiltration of the tumor into the spinal cord which was not examined.

The apex of the right lung was capped by the tumor which infiltrated into the parenchyma in streaks for a short distance and into the medial and posterior aspects of the apex (Fig. 3). Here it was transformed into a white, hard, fibrous tumor mass which was almost hyalinized and obliterated the parietal pleura. The tumor infiltrated into the intercostal muscles and the muscles of the neck and their tendons, and enveloped the nerve trunks and the blood vessels of the neck on the right side, incorporating them into an ill-defined, solid mass, the extent of which could not be determined. The posterior portions of the first and second ribs and the bodies of the lower cervical and upper thoracic vertebrae were destroyed by the tumor as was evidenced by the dissecting knife. The tumor infiltrated into the pulmonary parenchyma for a short distance near the apex. No definite primary site of the tumor, such as is usually seen in a bronchogenic carcinoma, was demonstrated. The lungs, otherwise, showed a

chronic bronchitis, bronchiectasis, and intervening areas of pneumonitis.

Microscopically, the tumor consisted of solidly packed "epithelial" cells, in some areas uniform in size and shape, with medium-sized hyperchromic vesicular nuclei, in an alveolar arrangement, and in other areas irregular in size and shape, with abundant eosinophilic cytoplasm and large nuclei, often lobulated, rich in chromatin and decidedly pleomorphic, often accompanied by abundant intercellular collagenous connective tissue. The tumor appeared to be generally quite cellular, but there were areas of increased collagen production and fibrosis, where only isolated tumor cells were seen to infiltrate. It infiltrated into the fat, muscles, and bone. The parenchyma of the apical portion of the lung was completely displaced by the tumor which could have invaded the lung from without. At the invading border of the tumor, there were varying degrees of interstitial fibrosis and septal thickening, along with infiltration of tumor cells which might form alveolar linings, sometimes in clumps or in papillary projections. Cornification was not present. Pleomorphism was most conspicuous. The general microscopic appearance of the tumor was that of an anaplastic adenocarcinoma. While the nerve trunks and the muscle bundles were not actually invaded by the tumor, they showed changes due to the pressure of the growth such as edema, atrophy, fibrous replacement, and fatty infiltration (Figs. 4 and 5).

Fig. 3. Hard tumor mass at the apical cap. (A) The pleura on the posterior aspect of the apex is transformed into solid tumor mass which is contiguous with the mass in the neck. (B) The tumor "infiltrates" into the pulmonary parenchyma for a short distance at the apex.

DR. GORDON R. KAMMAN: Neurologists see many patients suffering from pain in one of the upper extremities, but many of these cases are not neurological in origin.. Some patients have arthritis or fibromyosis of the shoulder joint with pain radiating down the arm. Just recently, I saw a woman who was sent in with a diagnosis of radial neuritis, but upon examination she had definite limitation of motion of the shoulder joint and the characteristic x-ray findings of arthritis. In arthritis affecting either shoulder or the hip joint, there may be muscular atrophy of the extremity with reflex changes. In this case there was a reduction of the triceps reflex with an exaggeration of the biceps. This was not due to an irritative lesion involving the nerves supplying the biceps, but it was due to a weakness of the triceps muscle which permitted an excessive reaction of the biceps when the tendon was tapped. Another condition which enters into the differential diagnosis of pain in the upper extremity is brachial neuritis. I think that this is due to virus infection and it seems to have been more common during the past few years. This condition is accompanied by pain radiating down the arm, usually the radial aspect, and involving the thumb and the first two fingers. The biceps tendon jerk is frequently reduced. In this case the biceps jerk was exaggerated.

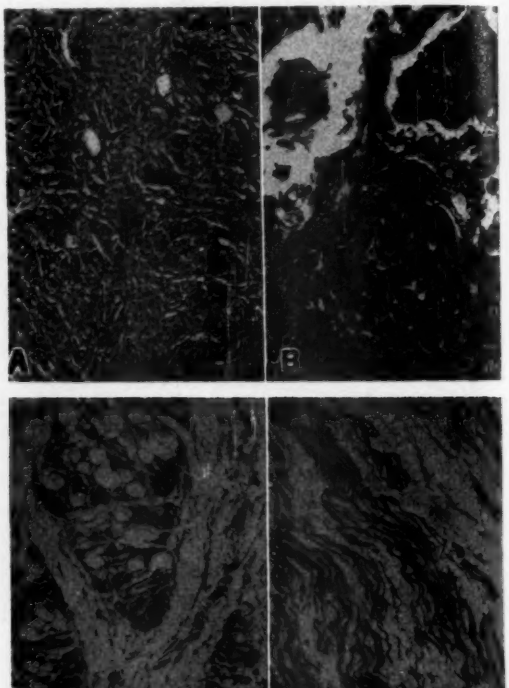

Fig. 4 *(above)*. Solid adenocarcinoma in alveolar arrangement. Note a marked pleomorphism of tumor cells. (A) From the solid mass in the neck. (B) Infiltration into the pulmonary parenchyma.

Fig. 5 *(below)*. (A) Atrophy and fatty infiltration of the muscle of the neck. (B) Edema and atrophy of the brachial nerve.

The patient who has just been presented was sent in with a diagnosis of hysteria. The diagnosis of hysteria

was made because the patient failed to respond to the various forms of treatment which his attending physician had used, such as injections of local anesthetic, heat treatments, encouraging talks, et cetera. The doctor finally concluded that because the man was not getting any better he was a fool and that he had better come in to see me.

The neurological examination in this case was essentially negative except for the findings referable to the right eye and the right upper extremity. The left eye was blind as a result of an old cataract. The right eye showed a typical Horner's syndrome, i.e., contracted pupil, recession of the eyeball, enophthalmos and ptosis of the upper lid. This syndrome is due to an interference with the cervical sympathetics. There was a mass in the right supraclavicular space. The mass was not tender, but upon pressure upon it the patient would complain of pain radiating down the distribution of the radial nerve. This is called a Tinel sign and indicates involvement of a nerve trunk. The patient also had trophic changes in the right arm, i.e., the swelling, tapering fingers, and a glossy appearance of the skin. There also was weakness of the right grip. Pain was very severe and required the administration of narcotics. This is quite important from a diagnositic standpoint, because a pain which requires as much narcotic as this man required and also which awakens a patient at night is almost invariably on an organic basis. Functional pains do not awaken people. In obtaining a history as to whether or not a pain awakens a patient from sleep, it is very important to ascertain whether the patient wakes up and then begins to have pain, or whether the pain actually wakens the person like any other stimulus could. This man had many, many sleepless hours. He spent hours sitting up in a chair or pacing the floor. We had him in the hospital just long enough to make a diagnosis and to give him some deep x-ray therapy, which rarely does any good. The only reason that x-ray is ever used in these cases is that it sometimes reduces the amount of pain the patient has, and I believe that this happened to a slight degree in this case. For some reason or other, the tumor is not surgically removable.

We considered doing a high cervical cordotomy in order to avoid the morphine addiction, but the man's expectancy was only a few months, so we felt that it would be just as well to keep him on morphine and avoid an operation.

Doctor Ikeda has pointed out that the lesion extended into the spinal canal. This patient apparently had a cord bladder, and if we had had a chance to make a neurological examination just before the patient's death, we probably would have found signs of a high transverse cord lesion. (I did not see the patient for several months before he died.)

There is no question about diagnosis in this case. The lesion was first described by Pancoast in 1932.[3] Pancoast's description presents clinical and roentgenographic characteristics which would warrant the naming of this lesion as a pathologic entity. The symptoms in all cases are very similar to each other and could be confused with arthritis of the shoulder joint. X-ray studies show a comparatively small and circumscribed shadow in the apex of the lung which is due to lung displacement rather than to infiltration of the lung. There also is destruction of the posterior portion of one or more ribs and of the adjacent articular and transverse processes of the vertebrae. There is a striking lack of intrathoracic metastases. Because of the comparative rarity of the tumor, those who are not entirely familiar with it are apt to confuse it with other conditions which present only portions of the diagnostic complex. On the other hand, the condition is often overlooked because of incomplete roentgenological studies, especially in examining only the shoulder. Doctor Peterson says that he likes to have all of his shoulder films include structures up to the midline because in that way he can discover superior sulcus tumors which otherwise would be missed if the pictures were confined just to the bony structures of the shoulder joint. Pancoast has made it a routine to examine fluoroscopically the neck and chest of every patient who comes in for an examination of his shoulder because of pain. I think that this is a very good rule to follow. Primary lung tumors of the upper lobe, tuberculosis, mediastinal tumors, and a few other lesions produce apical shadows which are frequently ascribed to superior pulmonary sulcus (Pancoast) tumors. However, the clinical picture in these other conditions is different, because in them Horner's syndrome appears as a late manifestation. This is because the lesion begins at a distance from the structures which must necessarily be involved in order to produce a Horner's syndrome. Furthermore, the apical shadow in the other conditions is far more extensive than in superior sulcus tumors, and bony involvement appears very late. Pancoast believed that the tumor was an epithelial type of cancer and he pointed out that if the growth were endothelioma of the pleura, it would not be likely to invade the bone and spare the soft tissues. The strange thing about this tumor is that the soft tissue of the lung underlying the tumor is spared, and there is displacement rather than infiltration of the lung. Yet, the tumor will erode through the hard structures, i.e., the ribs and the cervical vertebrae. This is rather paradoxical but it happens in all of the cases. The prognosis is always bad, radiation never helps, the tumor is not surgically removable, and death usually ensues in from a few to fourteen months.

Fried,[3] in 1935 in the *American Journal of Cancer*, expressed some doubt about Pancoast's idea of this being a primary tumor arising from remnants of the branchial cleft. He described a case which he thought presented symptoms of the Pancoast tumor but which upon post-mortem examination, was discovered to be an intrapulmonary carcinoma. However, in his case Horner's syndrome appeared *late*, while in Pancoast tumors the Horner's syndrome invariably appears as an early manifestation. Furthermore, in Fried's case, roentgenological studies showed extension into the lungs while in Pancoast's cases there is no extension into the lungs, but, rather, an erosion of the bones. This latter point is very important in the differential diagnosis between Pancoast tumor and intrapulmonary carcinoma.

In 1936 Steinberg[5] reported a case, and I am going

to give the symptoms of his case because they so closely resemble those in our case. Steinberg's patient was a male, aged forty-seven. The duration of the illness before examination was six months. The presenting symptoms were pain in the right arm of six months' duration and a lump in the right supraclavicular fossa. At first the pain was intermittent but then it became constant, radiated down the arm from the shoulder to the fingers, and was burning and knife-like in character, making sleep impossible. It was necessary to employ large amounts of sedatives, and later narcotics. The lump in the right supraclavicular area gradually increased in size and there was a progressive loss of weight and generalized weakness. There were practically no respiratory symptoms. The right upper extremity showed marked atrophy of the intrinsic hand muscles with weakness of the grip. There were no sensory changes. Roentgenograms of the chest and upper cervical region disclosed a mass at the cupola of the right lung adjacent to the vertebral column, and destruction of the first and second ribs near the transverse processes. The mass appeared to extend downward to the level of the first interspace. Biopsy showed an epithelial neoplasm having malignant features. A diagnosis of superior sulcus tumor or Pancoast tumor was made and radiation therapy was given over a period of eighteen days without relief. The soft tissues of the right upper extremity continued to atrophy and the wasting was particularly marked at the deltoid, biceps, and interosseous muscles of the hand. At autopsy, the right apex of the lung was found to be adherent to the tumor mass in the region of the superior pulmonary sulcus. The tumor involved the head and neck of the first two ribs and it also eroded the transverse process of the seventh cervical and the first and second dorsal vertebrae. Palpation of the vertebral bodies showed them to be roughened and involved by the tumor. The substance of the tumor mass was extremely firm, slightly rubbery, and generally yellowish-white, and it cut with considerable resistance. In the apex of the right lung there was a flattened, smooth, yellowish plaque similar in appearance to the tumor tissue, which on section, was found to be confined to the pleura and not to extend into the parenchyma of the lung. Sections of the nerve trunks showed infiltration of perineural lymphatics by tumor cells. The final pathologic diagnosis was carcinoma of the right pulmonary sulcus (Pancoast tumor of unknown origin), with extension into the first and second ribs and transverse processes of the body and the bodies of the seventh cervical, first and second thoracic vertebra, and metastases to the pleura and right kidney, lobular pneumonia, bilateral patchy emphysema, and atelectasis. The kidneys showed mild arteriosclerosis and tumor metastases and degeneration. The histologic picture of the tumor in this case was very similar to ours. While some sections revealed a disorderly, highly bizarre, cellular pattern, many sections showed a glandular pattern. The weight of evidence was against an intrapulmonary origin.

DR. KANO IKEDA: Clinically and roentgenologically, Pancoast tumor appears to be a distinct entity. With the clinical manifestations and the characteristic roentgen findings, the disease offers little difficulty in diagnosis. An alert roentgenologist should, as in our case, make the diagnosis without the clinical history. Likewise, a clinician may arrive at the diagnosis on the symptoms alone. Pancoast himself reported his original cases, all of them without necropsy, three with biopsy and two with a history of having been treated for a cancer of the cervix uteri, on the roentgen findings and clinical symptoms. However, an early diagnosis, that is, the recognition of the condition before the appearance of the classical signs and manifestations, may be difficult. Pathologically, the location of the tumor, its gross appearance, and its invasive characteristics are fairly pathognomonic. Microscopically, however, there has been no uniformity in its histologic pattern, which cannot be attributed to metaplasia. While the tumor is conceded to be malignant in all cases thus far reported, and in a large majority it is diagnosed as carcinoma, there is a valid objection to making it a pathologic entity, since its histogenesis is yet unknown and the varied cell patterns suggest more than one type of primaries. Cases have been reported as Pancoast tumor on the basis of clinical and roentgenological criteria without the complete necropsy. Other cases have shown the tumor to be a metastatic mass with a primary elsewhere demonstrated at necropsy.[1] Still others revealed the tumor to be a bronchogenic carcinoma.[3,7] One case was reported as sympathoblastoma which, without the differential stain, might have been diagnosed as an anaplastic carcinoma.[4] Another was reported as pleural endothelioma.[6] Our case seems to belong to a type of adenocarcinoma of the bronchogenic origin. I would therefore hesitate to accept Pancoast tumor as a pathologic entity. It describes a clinical syndrome and may be considered merely as a clinical entity. Any malignant tumor, primary or metastatic, located in the region of the superior pulmonary sulcus, accompanied by the signs and symptoms described by Pancoast may be designated as Pancoast tumor.[2]

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NOTES ON THE HISTORY OF MEDICINE IN FILLMORE COUNTY PRIOR TO 1900

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(Continued from October Issue)

J. Herbert Darey, one of a family of three children, was born on December 19, 1861, at Montreal, Quebec, Canada. His father, Pierre S. Jacques, a native of Paris, France, was for thirty-five years a professor on the faculty of McGill University, in Montreal. His mother was born Mary Juliet Anable, in Philadelphia, the daughter of American parents; she was educated in a private school for girls and later became an artist.

An able student, when Herbert Darey was graduated from the Montreal High School, in 1876, he received the Dufferin Bronze Medal, presented by His Excellency, the Governor General. His scholastic career continued to be brilliant, as is evidenced by the following tribute from Alexander Johnson, M.A., LL.D., (Dublin), the Vice Principal of McGill University and Dean of the Faculty of Arts:

> I have much pleasure in stating that Dr. J. Herbert Darey, B.A. (1880), M.A. (1885), M.D. (1885), during his undergraduate course in Arts was one of the most distinguished students the University has ever had. He obtained First Rank Honors and the Gold Medal in Classics at the end of the third year; Classical Scholarship at the beginning of the third year; First Rank General Standing in all subjects during the first three years; Exhibition in the first two years.
>
> At the examinations in the ordinary subjects throughout his course, he obtained first class on every occasion but one—a very rare distinction, indeed.

In order to avail himself of the Alexander Scholarship, at Cambridge University, England (received at the beginning of the third year), the young man went to Europe before his graduation from McGill University; on his return to Montreal and after his graduation from the university, in 1885, he became a member of the faculty.

In 1886 Dr. Darey served as resident physician at the German Hospital in Philadelphia. Two years later, when he had gone on a visit to relatives in the Middle West, in Iowa and especially in the immediate vicinity of Granger, in Fillmore County, Minnesota, unforeseen circumstances determined his future residence.

Dr. Don J. Lathrop, who since 1872 had been the only practicing physician in Granger and who since July 4, 1882, had been almost completely blind as the result of an accidental explosion of gunpowder, died on May 2, 1888, and it happened that Dr. Darey arrived in the village on the day of the funeral. Soon recognizing the opportunity available locally for a young physician and liking the country and the people, Dr. Darey decided to settle there and he shortly entered upon an interesting ten years of his life and work.

Pioneer citizens of Granger recall many incidents of the young doctor's skill.

One resident has told of an occasion when she opened her home for the performance of a surgical operation on one of her relatives, a little girl who was suffering from a serious infection of the knee. Physicians had been called from a distance and after consultation they had decided on amputation of the affected limb. While the instruments were being prepared in an improvised sterilizer on the kitchen range, a member of the patient's family besought young Dr. Darey, who had been asked to be present, for his candid opinion. Dr. Darey examined the knee and then replied: "You would like to save the child's leg if it were at all possible, wouldn't you?" The family had no other wish and gave him permission to use any measures he thought advisable in order to obviate amputation. As it is recalled, Dr. Darey made a small incision over the patella and removed some blood clots from underneath that bone; the little girl in a short time made a perfect recovery.

Dr. Darey was licensed in 1887 to practice in Iowa, and on April 6, 1888, he received his Minnesota state certificate No. 18 B, under the Medical Practice Act of 1887. Very fair, boyish in appearance, in order to appear older than his scant twenty-five years he let his full beard grow.

About two years after he began his practice in Granger, Dr. Darey was married, on June 11, 1890, to Elizabeth Horton, a teacher of music, of English descent. Mrs. Darey came of a family interested in medicine; she had a brother who was a physician, and in later years one of her nephews became a qualified practitioner.

From his earliest professional years Dr. Darey was identified with medical societies. He was at one time president of the Woodbury County (Iowa) Medical Society; he was a member of the Southern Minnesota Medical Association, which was organized in 1892; the Houston-Fillmore County Medical Society; and the American Medical Association. At the thirty-first annual meeting of the American Public Health Association, held at Havana, Cuba, in 1905, he was elected to membership in the organization. A non-professional organization of special interest to him was the Sons of the American Revolution, to which he was admitted in 1920, as the great grandson of Asa Sheldon and Isabel Lowe Sheldon and the great great grandson of Samuel Lowe and Alma Stafford Lowe. He was a member of the Episcopal Church and was a Mason, having joined the Blue Lodge of Preston on December 18, 1889; he withdrew from membership in 1896.

An able physician and surgeon, he was in general practice during his years in Fillmore County, but after his removal to Sioux City, Iowa, in 1897, he limited his practice to the field of internal medicine.

Dr. J. Herbert Darey died in Sioux City on March 10, 1929, in his sixty-eighth year, from abscess of the spinal cord. He was survived by his wife (there were no children) and his sister, Mrs. H. A. Matheson, both of whom were living in 1943, Mrs. Darey in Sioux City and Mrs. Matheson in Ottawa, Canada. His brother, Laurence A. Darey, a civil engineer of Sherbrooke, Province of Quebec, died previous to 1929.

William Henry Dean, born in 1833, came to Spring Valley probably in 1857, shortly after his graduation from the Medical School of the University of Michigan at Ann Arbor. From the scanty record available, he gave evidence both of ability as a physician and of courage as a citizen.

In that period a well-organized band of thieves was plundering stores and farm homes and stealing horses in a widespread region. Legal redress was not feasible and action was necessary, so that finally the injured citizens met as a group in the village of Hamilton to organize and to adopt rules and sol-

emn pledges that they would act under established laws if possible but that in any case they would get rid of the thieves. When the moment came to sign the articles of agreement, there was hesitation among the men until Dr. Dean took the pen and signed his name first. Eventually, after it was discovered that the gang included local farmers, ostensibly honest, and a conniving justice, and after many scrimmages, the robbers were dispersed.

Dr. Dean's tragic death in the autumn of 1858 was the result of an accident that occurred late one afternoon when he and a party of his friends were being weighed on the platform scales in Stevens' mill in Spring Valley. A revolving shaft, unobserved in the dusk, caught Dr. Dean by the shawl which he wore secured about his shoulders in the manner of the time and carrying him from the platform dashed him against the scales at each revolution until the machinery could be stopped. Dr. H. Gilbert of Spring Valley gave him professional care and called in Dr. I. S. Cole and Dr. R. W. Twitchell of Chatfield, but Dr. Dean had been injured so desperately that he died eleven days later, on October 18, 1858. He was twenty-five years of age.

John R. De Cousens was in Lanesboro for at least a few years, probably beginning in 1881. He was then a man in his late fifties. It seems likely that he came to Lanesboro from Dundas, in Rice County, for in 1880 a Dr. John R. D. Cousens was mentioned by the State Board of Health as having given a report on diphtheria in Rice County for the year from November 1, 1879, to November 1, 1880.

On December 31, 1883, in Lanesboro, Dr. De Cousens received exemption certificate No. 714-3, under the Act of 1883 to regulate medical practice, and he was still in the village in 1885 and 1886, serving as local health officer. Judging from the reports which he submitted to the State Board of Health, he was a thorough and conscientious physician and inspector.

With official record of his professional capability and responsibility there remains hearsay evidence of one occasion on which a colleague differed with him as to treatment of a minor surgical condition. It has been told that a citizen of Lanesboro whose palm had been ripped open by the needle of a binder went to Dr. De Cousens for treatment. The doctor, using a needle larger than a darning needle of average size, as a brother of the injured man has remembered it, threaded with wire, sewed up the wound and dismissed the patient telling him not to leave the dressing on later than the following morning. The patient, feeling dubious about the procedure as well as being extremely uncomfortable, went in the morning to Dr. Johan C. Hvoslef, of Lanesboro, who saw fit to remove the wire and renew the dressing.

Other information as to Dr. De Cousen's career has not been available; in the official register of physicians of the state, of 1883-1909, he is listed, without date, as deceased.

Paul G. Denninger, a homeopathic physician, was in various localities in southern Minnesota between 1870 and 1890, and for four or five years of the time (1876-1880) was in Spring Valley, Fillmore County.

Born on January 20, 1848, in Berlin, Germany, Paul Denninger in 1862 came with his parents to the United States and in 1870, then a medical practitioner, settled in Eyota, Olmsted County, Minnesota. In Eyota on June 12, 1871, he was married to Susie A. Wagner, daughter of a local family. At the beginning of 1876 Dr. Denninger removed to Spring Valley, to enter practice with his brother-in-law, Dr. C. H. Wagner of that village.

Dr. Denninger joined the Southern Minnesota Homeopathic Medical Society in October, 1871, but it was not until 1879 that he received the degree of doctor of medicine from the Hahnemann Medical College and Hospital of Chicago. At that time there appeared renewed announcements of his opening offices in Spring Valley; by 1881 he was in Faribault, Rice County, where he remained for a considerable number of years. On April 22, 1884, he received his license, No. 884 (H), under the "Diploma Law" of the preceding year, to practice in Minnesota, and in this period he became a member of the Minnesota State Homeopathic Institute. Moving to California in 1890, he practiced there for many years, living in different towns, among them Monterey, Pacific Grove, San Jacinto and San Jose; he died in San Jose on December 10, 1927.

John C. Dickson was born in Springfield, Illinois, on December 26, 1837. His early education and his preliminary medical training, the latter beginning in 1865, he obtained in Springfield. From October 1, 1866, through 1868 he studied chemistry and practical pharmacy and attended lectures on medicine at the University of Michigan, in Ann Arbor; early in 1869 he took a partial course at the College of Medicine in Louisville, Kentucky, and in that spring came to Chatfield, Minnesota, not to practice medicine, however, but to engage in the mercantile business. It was nearly two years later, then resident in Jasper County, Iowa, that he first used his professional knowledge. In 1873 he returned to Chatfield, to spend the remaining twenty-five years of his life as a practicing physician and surgeon. For a time after his return he was in partnership with William Briley in a drugstore. Subsequently he had his office in a front room over the post office. After 1883 he practiced under an exemption certificate. A contemporary of some of the earliest physicians of Chatfield, among them A. H. Trow and M. A. Trow, father and son, and R. W. Twitchell, he was a colleague also of many of the men who came later, some of whom were E. H. Grannis, I. W. Timmons, J. C. Fate, O. A. Case, A. M. Stephens, F. J. Halloran and C. M. Cooper.

Dr. Dickson is remembered in Chatfield as an honored civic leader who was identified with all movements for the good of the community and as an able and successful physician who inspired confidence in his patients. He often served as county physician, was four times mayor of Chatfield, and was an examining surgeon of the board of pensions of the Chatfield district. Almost throughout the eighties he served as a member of the local board of health and health officer of Chatfield and, in 1885, he represented the village at a conference of state and local boards of health and also at a popular sanitary council for southeastern Minnesota. His interest in public health was evidenced further by the fact that during his years as mayor the Chatfield city water system was begun. A significant item in the *Chatfield Democrat* of September 13, 1894, ran as follows: "Dr. Dickson spends $103 for water on his premises, house, garden, barn and beautiful underground drainage." In the same issue it was stated editorially that Dr. Dickson (who was a strong Democrat) was to run for representative on the Democratic ticket, that he was well qualified that his only fault was that he "trained with the wrong party."

The picture of Dr. Dickson as seen in the descriptions given of him by those who knew him best in Chatfield is that of a tall, well-proportioned, distinguished-looking man; he wore his hair, iron gray in his later years, rather long, and he had a handle-bar mustache which he twisted when he was preoccupied. He drove beautiful horses, was free from addictions, unless the quiet enjoyment of a good cigar is an addiction, enjoyed his home, and was

an active member of the Independent Order of Odd Fellows, in which he served for many years as Noble Grand. Well disposed as the doctor was toward his fellow citizens, and respected by all and loved by many, an old friend has described him as "rather reserved, not unfrienlly, but fearless and more inclined to make strong enemies than strong friends."

In the first period of his life in Chatfield (1869-1871) John C. Dickson was married on October 6, 1869, to Ida M. Johnson, who was born on July 15, 1850, daughter of Mr. and Mrs. Peter Johnson, who were early settlers in the community. Of the three children of Dr. and Mrs. Dickson, one died in infancy; Fanny Iowa Dickson was born on December 18, 1872, and died at the age of fifteen years; Marcia Maude was born on July 15, 1874.

Dr. John C. Dickson died in Chatfield on August 29, 1898, from heart disease, at the home of his daughter, Marcia Maude, the wife of John A. Ross, a druggist. In later years Mrs. Dickson made her home in Ventura, California, with Mrs. Ross, and it was there that her death occurred on September 16, 1931. Mrs. Ross died on April 28, 1936, in Ventura, survived by three daughters, all residents of the city; at the time these notes were compiled, early in 1944, two of the daughters, Marcia Ross Thayer and Marguerite Ross Dawley, were living; Evelyne Ross Tate died on June 11, 1943.

M. Donnelly (sometimes seen Downelly), of Lanesboro, the son of pioneer citizens of Fillmore County, was an early physician in the region and one of the first members of the Fillmore County Medical Society. This group, as noted, has been said to have been organized in the autumn of 1862, but a detailed account in a newspaper of Preston would appear to establish the organizational meeting as held on October 17, 1866. Dr. Donnelly, in 1869, was its secretary and also was a delegate to the meeting of the Minnesota State Medical Society, newly reorganized, at Owatonna in June of that year. In 1870 his name was presented to the state society by its Committee on Credentials and duly was placed on the roster.

Dr. Donnelly in his professional cards in the county newspapers emphasized that he treated diseases of the eye and fitted glasses by test, adapting spectacles to all kinds of deranged vision. He practiced medicine in Lanesboro and the community until he moved to New York City, probably in 1871, as indicated by the fact that beginning in that year he no longer was listed as a member of the State Medical Society. In April, 1874, Dr. Donnelly, after a visit in Lanesboro, had returned to his "large and lucrative practice in New York;" in the summer of 1887 he again had been visiting his mother and his friends in the vicinity of Lanesboro.

Frederick Arthur Drake was born in Rushford, Fillmore County, Minnesota, on July 8, 1870, the son of Charles Drake, a native of England, and Jane Hargrave Drake, a Canadian. Of his five brothers and sisters, Frank, Robert, Charles R., Alice and Nellie, only Charles R. Drake, M.D., Minneapolis, was living in 1943.

In Rushford Frederick Drake attended grade school and, in 1889, was graduated from high school, valedictorian of his class. After completing an academic course at the state university, he taught school and next sold saddlery and other leather goods until he began the study of medicine. In 1896 he received from the University of Minnesota his degree of doctor of medicine, cum laude; during these years at the university he had served as chaplain of his class. Dr. Drake was licensed (certificate No. 656) in the state on June

9, 1896, and on completion of a year's internship at St. Joseph's Hospital in Saint Paul he began his medical practice in Lanesboro, a location chosen because it offered financial and professional opportunity. More than forty-seven years of ethical practice, during which he has made a reputation throughout a wide region for careful and accurate diagnoses, have proved his choice a wise one.

Although Dr. Drake has remained in Lanesboro, he was associated briefly, in 1898, with Dr. W. H. Lincoln, of Wabasha, Wabasha County, and in 1913 he considered moving to the West; in fact, it was stated in the *Journal-Lancet* that he had sold his practice in Lanesboro to Dr. Gustave C. Hoff, formerly of Zumbrota, Goodhue County, and was going to Spokane, Washington. Between 1920 and 1925 Dr. Rolf Nannestad worked with Dr. Drake as his assistant in Lanesboro, and since 1939 Dr. John E. Westrup has been associated in practice with him. An honored contemporary in Lanesboro from 1897 to 1942 was the late Dr. Andreas Pederson Lommen; other physicians temporarily there in the late nineties were Thomas W. Hunt and Wellington D. Parker.

Throughout his professional career Dr. Drake has been identified actively with medical progress, in his practice and in medical organizations. He long has been a member, and sometimes secretary, of the local county society: first of the original Fillmore County Medical Society and, successively of the Houston-Fillmore, the Olmsted-Houston-Fillmore and the Olmsted-Houston Fillmore-Dodge County Medical Society. In 1905 he and Dr. W. B. Grinnell represented the society (Houston-Fillmore) in the House of Delegates of the State Medical Association; he is a life member of the state society. In his community Dr. Drake has served as county and as township physician, and for more than thirty years as surgeon for the Southern Minnesota Division of the Chicago, Milwaukee and St. Paul Railway Company.

Of Dr. Drake's many contributions related to his profession, one concrete gift of a medical appliance is singled out here for description because of its historical interest. Some years ago there was given to Dr. Drake by one of his local patients a brass and pewter enemator, which then was nearly 150 years old, a rarity among medical apparatus. Since the late eighteenth century, when its purchase price was six guineas, the instrument, of English manufacture, had been the possession of an English family, some of whose members in the middle nineteenth century immigrated to America and came with their household goods to Fillmore County, Minnesota. Appreciating its value, Dr. Drake placed the little machine among his collection of medical appliances until, a few years prior to this writing, he gave it to Dr. M. C. Piper, of Rochester, for safekeeping in the Mayo Foundation Museum of Medicine and Hygiene, where it now is displayed. The cylindrical pewter barrel of the instrument, 8 inches high and 2 inches in diameter, holds approximately a pint. By means of a brass piston the fluid is forced through a slender brass pipe 10 inches long, which is joined to the base of the barrel at a right angle, and thence into the rectal tip, 2½ inches long, which is of pewter and is joined vertically to the pipe, its base just above the junction flaring into a narrow flange of downward slant. With the instrument there stands its well-constructed, well-preserved, velvet-lined mahogany case, which measures some 11 by 3 by 5 inches.

In Lanesboro Dr. Drake has carried a full share of civic responsibility, as mayor, as a member of the villege council and as president of the board of education. He is a Mason (A. F. and A. M., 102, Past Master; the Order of

the Scottish Rite and the Osman Shrine); a member of the Modern Woodmen of America and of the Independent Order of Odd Fellows. His chief recreations have been fishing and hunting; his intellectual diversions, outside his profession, are Norwegian whist and, above all, reading and perfecting his excellent library of more than 2,000 volumes which is said to be one of the most wisely selected in the southern part of the state. Of his books he has given generously to the school and public library of Lanesboro.

In 1899 Frederick Arthur Drake was married to Nellie Frances Rafferty, a schoolteacher by profession, of Lanesboro. The two sons of Dr. and Mrs. Drake are Donald O'Neill and Charles Robert Drake, both of Lanesboro.

J. Early came from Virginia to Spring Valley Township with his son-in-law, Henry Kibler, in the spring of 1853. Mr. Kibler, who became a political figure of some importance in the county and state, took a claim in sections 24 and 25, where he subsequently built a sawmill; he also laid out a city, to be called Liberty, but his keeping a few goods for sale in his house was the nearest approach to urban activity that the settlement ever knew. Later he settled permanently in Fillmore Township.

Dr. Early staked out a claim near that of Mr. Kibler in Spring Valley Township and he perhaps was associated with his son-in-law in some of his enterprises. Although Dr. Early locally gained a favorable reputation as a medical man, he apparently was too little interested in his land to make improvements, and he presently removed into Iowa, where he lived out his life.

John Robert Eby, born in 1868, and his brother, **Cyrus Bowers Eby,** born in 1872, were graduated in the same class, in 1893, from the Medical School of the University of Minnesota. They were the sons of Aaron Eby, M.D., practicing physician and versatile writer, and Matilda Croft Bowers Eby, both natives of Kitchener, Ontario, Canada; Dr. and Mrs. Aaron Eby established their family home in Sebringville, Ontario.

The first Eby ancestors in America were Theodore Eby and his sons, who were among the earliest millwrights in Pennsylvania; the house of Christian Eby, which was built in 1749 near the millsite at Lititz, Pennsylvania, has remained in good condition to the present time. The grandfather of Aaron Eby was one of a group of Pennsylvanians who migrated to Canada early in the nineteenth century and settled in Waterloo County, Ontario. The grandfather of Matilda Croft Bowers was the owner of large lumber interests and a furniture manufactory in Waterloo County; cabinet makers traveled on horseback into Canada to make furniture for him, and many beautiful pieces of their handicraft remain as treasured heirlooms in the Bowers and Eby families.

Dr. and Mrs. Aaron Eby had seven children: Rose, who was the first woman to matriculate in the Provincial Medical School at Toronto; Elizabeth (Mrs. J. C. McFarlane); John Robert; M. Dorothy; Cyrus Bowers; Frederick, professor of education at the University of Texas and author of several books on religion and educational philosophy; and Grace D.

The two brothers, Robert and Cyrus, after receiving their early education and premedical instruction in the school at Sebringville and at the Stratford Collegiate Institute were attracted by a combination of circumstances to the Middle West and in the late eighties came to Minnesota, where they were to remain for many years. In the autumn of 1889 they matriculated at the University of Minnesota. Their maternal uncle, Jacob Eton Bowers, M.D., a

physician in Minnesota from his graduation from medical school in 1868 until his death in 1922, was from 1878 into 1889 Superintendent of the State Hospital for Insane at Rochester, Olmsted County. On their arrival in Minnesota, Robert and Cyrus Eby visited their uncle in Rochester and subsequently both, but especially Robert, worked in the drug store of the hospital. In the superintendent's report for the fiscal year ending on July 31, 1888, it was stated, "J. Robert Eby has been added to the staff as apothecary and has relieved the medical officers of much in the way of minor details, leaving them more time to devote to the special care of the patients;" his name continued on the roster until the summer of 1890.

Inasmuch as the notes in this series of sketches deal primarily with practitioners of medicine who were in Fillmore County prior to 1900, and inasmuch as Cyrus Eby did not settle in Fillmore County until 1901 but was in Olmsted County as a physician on the staff of the State Hospital in the late nineties, a more detailed comment concerning his life and work will be made in connection with Olmsted County. It should be said here, however, that Dr. Cyrus B. Eby spent the greater part of his professional career, until his death in 1934, as an able, ethical, hardworking and much loved physician of Spring Valley, Fillmore County.

Dr. J. Robert Eby was licensed to practice in Minnesota in 1893, shortly after his graduation from medical school, and he first opened an office in Spring Valley. From 1894 to 1901 he was engaged in practice in Mountain Iron and Virginia, Minnesota. Subsequently he was, for several years, a resident of St. Anthony, Idaho. By 1912 he had settled permanently in Elko, Nevada. A well-qualified physician, he was a progressive member of the official medical organizations of the states in which he lived and of the American Medical Association. Dr. J. R. Eby died in Elko, Nevada, on October 26, 1944.

J. W. Eighmy (sometimes misprinted Eryhmy) was an eclectic practitioner of medicine and surgery in Fillmore County for about six years in the late sixties and early seventies.

In 1866, and probably earlier, Dr. Eighmy was resident in Hamilton, Sumner Township; by the early spring of 1868 he was established in the village of Fillmore, Fillmore Township, where for a time he was in partnership in a thriving drug store with J. D. Dain, and it was during his residence here that he was married, on August 23, 1868, to Miss Mary J. Priest, the daughter of a pioneer farmer in the township of Harmony.

In 1869, still in Fillmore, Dr. Eighmy was one of the founders and the first secretary, presumably, of the Fillmore County Eclectic Medical Society, which on May 3 of that year organized and adopted an elaborate fee-bill. In July he resigned the secretaryship and was elected treasurer. Dr. Eighmy, in 1871, perhaps latterly of Preston, although his residence there is unconfirmed, moved from Fillmore County to Brownsdale, Mower County. There for a few years he practiced medicine and placed on the local market "Dr. Eighmy's Magic Cure for Rattlesnake Bites," a preparation of his own compounding announced as a specific for many other bites as well. It has been said that in 1874 he left for California, where he died a few years later.

(To be continued in the December issue)

President's Letter

Minnesota Veterans Medical Care Program

UP TO the termination of the last war, veterans received medical care for service-connected disabilities in hospitals of the Veterans Administration. In some rare instances, diagnosis and treatment were permitted or arranged through physicians located in rural areas and appointed as "designated medical examiners" by the Veterans Facility.

To conduct this program, ninety-four hospitals with a patient capacity of 76,000 employed 53,000 persons, most of whom had civil service status. The total budget of the Veterans Administration for the fiscal year 1944-45 amounted to four and a half billion dollars. While no accurate estimate is available regarding how much of this total budget is for medical and hospital care, a rough approximation places it at 10 per cent. In January, 1945, 2,029 physicians were employed by the Veterans Administration. Their pay ranged from $3,250 to $7,500 per year. These were the conditions which existed prior to the recent Veterans Administration reorganization.

After the last war, General Omar N. Bradley was appointed Administrator of Veterans Affairs to succeed Brig. General Frank T. Hines. Among his first efforts in reorganization was the appointment of General Paul R. Hawley as Medical Director. This was soon followed by an announcement of a change in policy by which veterans would be given medical care in their home town or local hospital by their family physicians.

In this way, medical care of some twenty million veterans by the traditional American system of medicine became an actuality. Clearly, here is an opportunity to demonstrate that the medical profession is capable of eradicating abuses which had, as is characteristic, crept into the bureaucratic administration of a medical care program by a governmental agency. Here is an opportunity to prove that high quality of medical care can be furnished through plans provided by the organized medical profession at a cost not in excess of that of bureaucratic governmental medicine. And by so doing, future legislation designed to include veterans' dependents merely means an extension of customary practice arranged by the profession even though paid by federal funds.

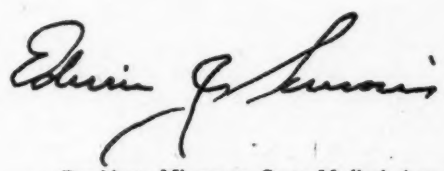
Of two phases of this program, the first developed was affiliation of the Veterans Administration Hospital at Fort Snelling with the University Medical School. By such an arrangement, incidentally the first in the country, those veterans who required care in the Veterans Hospital were assured the highest possible quality of medical care.

But of more immediate concern to the profession at large was the second phase of the program. The Washington headquarters of the Veterans Administration requested the Minnesota State Medical Association to submit a contract including a fee schedule whereby medical care could be given veterans by physicians of their choice in their local communities.

Using the contract pattern established by Michigan, Kansas and California, the Veterans Affairs Committee of the State Medical Association, first with Dr. Richard Hullsiek and later with Dr. Ralph Creighton as chairman, finally after many meetings completed the fee schedule. The matter was then submitted to the House of Delegates which adopted the recommendation of the reference committee. The final contract and fee schedule, worked out in collaboration with officials of the Veterans Facility branch office, was submitted to and approved by the Council on September 29, 1946. Both the contract and the fee schedule have been submitted to the Veterans Administration, and it is hoped that the Minnesota Veterans Medical Care Program will soon become operative.

This throws a heavy administrative burden upon Mr. Rosell and his staff. Patience and cooperation will be sorely needed until the administrative wheels are running smoothly.

So, it might be said, we now are facing one of the crucial tests which may determine whether the control of medical practice is to remain within the profession or will be administered by some governmental agency. And the two criteria by which we or our plan will be judged are quality and cost.



President, Minnesota State Medical Association

Editorial

CARL B. DRAKE, M.D., *Editor;* GEORGE EARL, M.D., HENRY L. ULRICH, M.D., *Associate Editors*

THE NURSING SHORTAGE

THE dearth of trained nurses today presents a serious problem which concerns hospitals, physicians and the public. This lack of nurses exists in spite of the fact that there are more nurses registered today than ever before. Several factors account for this situation.

In the first place, there are more jobs open for the trained nurse today. The full hospitals also require more nurses, many more than they did a few years ago. Then, too, the economic condition of the country enables more patients to employ nurses. No statistics are available as to how many nurses who have been discharged from the armed forces have returned to civilian practice, and it may be that many have not. Doubtless, the urge for young women to take up nursing as a vocation has lessened with the termination of the war, and the opportunities to earn high wages in other vocations requiring little or no training have undoubtedly discouraged them from entering upon three or more years of training without the prospect of commensurate compensation. The requirements established by the national organization of nurses also tend to restrict the enrollment in training schools. These high requirements have resulted in the closing of an appreciable number of the smaller nursing schools, particularly in the country districts. In certain cases the hospitals themselves have had to close as the incentive of training for certification as a Registered Nurse was absent.

How can this lack of nurses be met?

It has been felt by members of the medical profession for some years that there is a need for two rather distinct types of trained nurses: one, the highly trained nurse with an educational background above the average, who has received some instruction in the basic sciences and has had three or more years of hospital training; and the other, one who has had enough training to qualify her for the bedside care of a patient not seriously ill. The former nurse, typified by the present-day graduate of the better nursing schools, would be qualified for supervisory positions in hospitals and as instructors in training schools. The latter nurse might not have met the requirement of having been in the top third or half of her class in high school, but still would be suitable material after a year or two of training in a hospital to qualify her to be a highly satisfactory bedside nurse, both in the home and hospital.

An editorial entitled "The Training of the Graduate Nurse," which appeared in the July issue of the *Virginia Monthly Medical Journal,* proposes that the training period for nurses be cut down to two years by eliminating some of the didactic work, and that those who desire take postgraduate work to qualify them to meet registered nurse requirements in other states. It was felt that if the Nurses Board in Virginia should take this step, other states would follow, and the national organization of nurses would also change its requirements.

Already independent organizations in various parts of the country, including Minneapolis, have undertaken the training of practical nurses. Educational requirements are not so exacting, and the training course is limited to nine months in a hospital. The resulting practical nurse has proved, in the minds of many physicians, to be highly satisfactory for the bedside nursing of patients suffering from many types of illness.

Steps are being taken in Minnesota by those interested in the training of practical nurses to submit a bill in the coming legislature providing for the certification of young women who have accomplished this short course of training.

It is our opinion that, rather than to shorten the period of training at present required for a registered nurse, a distinctly different type of nurse should be trained to be known preferably by some other term such as "attendant nurse." This term would signify a certain amount of training as distinct from the self-styled practical nurse who may have had no training at all. It is felt that the establishment of this shorter course might solve the problem of some of the smaller hospitals which have been operating under such handicaps or have been forcd to close.

It is to be hoped that, if and when legislation

is proposed to provide for certification of practical nurses or attendant nurses or whatever they are termed, the hospitals, nurses and medical profession will co-operate to insure passage of the bill.

SULFATHALIDINE IN INTESTINAL DISORDERS

INTESTINAL infections have always posed a serious problem to practitioners of medicine. This problem has been emphasized repeatedly in medical writings of all time. It has been brought home with emphasis to every physician who is called on to treat patients who have intestinal disturbances.

With the advent of sulfonamide compounds it appeared that a potent weapon to combat these infections had been discovered. In a larger sense, this has been true. However, many of the earlier drugs of the sulfonamide series, because of their toxicity, did not lend themselves well to the treatment of the intestinal disturbances. It became obvious early in the use of these drugs that large amounts of any given drug would be necessary to achieve success, because in almost all these infections there is extensive intestinal involvement. Furthermore, large quantities of the drug would be necessary to cover the infected surface. Moreover, the drug would be carried through the intestinal lumen relatively fast, because there is usually an associated diarrhea. Still, it was found the drug remained in contact with the intestinal wall sufficiently long for considerable absorption to take place. Almost immediately after use of the sulfonamides was instituted in the treatment of intestinal infections, investigators attempted to produce drugs which exerted less toxic effects and had greater therapeutic effectiveness.

Through the years this has been the effort in relation to each drug produced for intestinal use. Among the least toxic of these drugs have been the various derivatives of sulfathiazole. One of the least toxic of these, but having therapeutic effectiveness, is phthalylsulfathiazole (sulfathalidine). This is the phthalic acid of sulfathiazole. This drug has some advantages over its predecessors, such as sulfaguanidine and sulfasuxidine, in that it is sparingly absorbed from the gastrointestinal tract, is rapidly excreted in the urine, and has been found in the test tube to have from two to four times the bacteriostatic activity of succinylsulfathiazole (sulfasuxidine). Finally, smaller doses of this drug than of any of the other drugs are therapeutically effective.

Streiher encountered no toxic reactions in the treatment of 100 patients with this drug. In a rather large series of cases of the streptococcic form of ulcerative colitis in which we have given sulfathalidine at the Mayo Clinic only an occasional toxic reaction was noted. One patient, a woman forty-seven years old, had similar reactions to sulfathiazole, succinylsulfathiazole, azosulfamide and phthalylsulfathiazole. Another, a woman fifty-five years old, had a severe reaction (fever, marked generalized erythematous rash and general malaise) to succinylsulfathiazole and mild similar reactions to phthalylsulfathiazole. In most cases, however, when a reaction to one or another sulfonamide drug occurred, no reaction occurred to phthalylsulfathiazole. From time to time, cutaneous eruptions are mistaken for reactions to sulfonamide. A patient may be sensitive to other drugs administered at the same time. We have seen several such instances of such sensitivity. Many of the patients treated at the Mayo Clinic showed an initial satisfactory response to succinylsulfathiazole, azosulfamide or sulfathiazole, but the response was not sustained. A sustained response was promptly obtained when phthalylsulfathiazole was administered. In one group of cases the response to phthalysulfathiazole was good in 70 per cent, fair in 3 per cent and slight in 3 per cent. No apparent response occurred in 24 per cent of the cases. By "response" is meant reduction in the number of stools, decrease or disappearance of blood from the stools and relief from the concomitant symptoms of toxemia. Something should be said about the severity of the disease in these patients. In 70 per cent of the cases in which this drug was given at the Mayo Clinic the disease was severe, and in 20 per cent it was in the insidious stage. In cases in which the disease was of the so-called fulminating variety, the response to the use of phthalylsulfathiazole was good in a half, but in the other half no apparent response was obtained. Most of the patients who had severe symptoms obtained at least a satisfactory if not a good clinical improvement when phthalylsulfathiazole was administered. Other clinicians have found that patients who had the acute form of the disease obtained improvement comparable to that secured by those who have the chronic form.

The drug has been particularly effective in the

treatment of so-called regional ulcerative colitis, at least in helping to abate the active symptoms of the disease so that operation could be performed more safely. The same can be said of its use in the syndrome of regional enteritis.

Sulfathalidine has been effective in some cases of chronic bacillary dysentery.

Sulfathalidine also has played an important role in the pre-operative care of patients who are to undergo intestinal surgery. Unless obstruction or the patient's general condition have contra-indicated it, we have been administering 150 grains (9.6 gm.) of sulfathalidine the first day and 90 grains (5.8 gm.) on the subsequent three days of the pre-operative period. The routine administration of this drug or others of the sulfonamide series intended for intestinal disturbances, mentioned elsewhere, together with other measures of pre-operative care, has resulted in a remarkable reduction in the fatality rate after intestinal operations.

This drug seems to have found a definite and valuable place in the treatment of a variety of intestinal infections. How well this pre-eminence will be sustained, with the advent of other drugs and the newer antibiotic agents, remains to be seen.

J. Arnold Bargen, M.D.

YOUR BENEVOLENT SERVANT

THE Minnesota Cancer Society has planned a well-rounded program for 1947 which includes three projects of special interest to physicians:

1. A postgraduate course on cancer
2. A monthly Cancer Bulletin
3. A Cancer Research Institute

The continuation course at the University of Minnesota for the study of cancer will be of unusual quality. Representatives from each county medical society will be invited with expenses paid by the Minnesota Cancer Society. The dates are January 2, 3, and 4, 1947. Specially selected speakers outstanding in the cancer field will be on the program.

A monthly cancer bulletin of unusual excellence with colored illustrations and a simple concise style, originally published by the Cancer Committee of the Illinois State Medical Society, will be reprinted at the expense of the Minnesota Cancer Society and mailed out to our membership.

The Minnesota Cancer Society intends to finance the construction of a Cancer Research Institute at the University of Minnesota. The details of this project are not ready for publication.

Your Committee on Cancer hopes that the various county medical societies will seriously consider organizing Cancer Information or Detection Centers in the near future.

Arthur H. Wells, M.D.
Chairman, Committee on Cancer.

VACCINATION AGAINST INFLUENZA

INFLUENZA, otherwise known as the "flu" or la grippe, is endemic throughout the country, especially in the winter months, and occurs in epidemics that are sometimes pandemic in nature. The infection has been definitely proved to be caused by a virus, and two types, A and B, with different immunological reactions, have been isolated. Type A, discovered by Smith, Andrews and Laidlaw, is the more severe type and has been found to have an incubation period of twenty-four to forty-eight hours following nasal inoculation. The less severe Type B virus was identified in 1940 by Francis and Magill, and has a shorter incubation period of twelve to eighteen hours.

Vaccine for Types A and B influenza virus is made by inoculating hens' eggs and, following incubation, extracting the virus from the embryo's red cells, inactivating the vaccine with formalin and preserving it with merthiolate. Experience in the army showed a reduction in incidence among vaccinated troops to 2.22 per cent as compared with 7.11 in controls, with the use of vaccine made in this way. This led to the use of this vaccine for more than 5,000,000 members of the armed forces. The vaccine is reported to have been at least 75 per cent effective, with only 2 per cent of those inoculated with the usual dose of 1 c.c. experiencing general reactions with fever and malaise, and some 60 per cent having a local swelling and redness at the site of inoculation.

The mixed A and B vaccine is now available in two forms: the vaccine produced by the blood absorption method, used by the army, and another preparation made by a calcium phosphate

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MEDICAL ECONOMICS

Edited by the Committee on Medical Economics
of the
Minnesota State Medical Association
George Earl, M.D., Chairman

PLAN TO PERPETUATE BLOOD DONOR SERVICE WITH STATE BLOOD BANK

Plans to perpetuate the Minnesota blood donor service begun during the war are beginning to take shape. These plans, which received the approval of the Council of the Minnesota State Medical Association at its meeting in February, 1945, were advanced even further at a recent meeting in the office of Governor Thye.

Meeting in the Governor's office was a committee composed of doctors, Red Cross leaders and Department of Health representatives, including Dr. A. J. Chesley, executive officer of the Health Department. The Governor called upon the committee to take the following steps:

(1) Begin immediate development of a state program, co-ordinating the work of private agencies; (2) Work out a plan to make the blood plasma available to anyone needing it; (3) Establish a co-operative arrangement with the Red Cross, State Highway Patrol, State Department of Health and various hospitals and municipalities; (4) Prepare a survey of the extent of the need for blood plasma; and (5) Formulate specific recommendations for state participation.

Begin Survey Immediately

The committee has decided to get the work of the survey underway immediately so that the program can be launched as soon as possible. It was reported at the committee meeting that while there are ample plasma supplies at present, at the rate these supplies are being drained, the same may not be true a year from now.

The committee has also agreed that the Minnesota Blood Bank will deal only in blood plasma and will leave the problem of whole blood supplies up to the various localities in the state, since it is almost impossible to store large quantities of whole blood for long periods.

The Blood Bank is to be carried on by the Red Cross, it has been decided, and the distribution of the blood plasma will be the responsibility of the State Health Department.

Chairman of the Governor's committee which has charge of the Minnesota Blood Bank project is Dr. Paul F. Dwan, clinical professor of pediatrics at the University of Minnesota. Working with him are Dr. Owen H. Wangensteen, professor of surgery, University of Minnesota; Stanley Hawks, chairman of the Minneapolis Red Cross chapter; A. J. Veigel, vice chairman, Civilian Blood Donor Program, St. Paul; Dr. T. H. Seldon, Mayo Clinic; Dr. Paul W. Kabler, chief of laboratories at the State Department of Health on the University campus; and Dr. Claude Kennedy, chairman of the Hennepin County Medical Society Blood Bank committee.

VETERANS MEDICAL CARE PROGRAM TO BEGIN OPERATION SHORTLY

The Medical Advisory Committee on Veterans Affairs and the Council have approved the proposed contract and fee schedule for veterans medical care in Minnesota and have referred them to the Veterans Administration for acceptance.

When the program gets under way it will be under the direction of an Operating Committee of the Minnesota State Medical Association, which will be appointed to supervise this work. The State Office is enlarging its quarters by taking on an additional wing to house the physical plant that will be required for this activity. Simplification of forms to keep paper work to a minimum, preparation of simple instructions to physicians on the operation of the program, and a check on office procedures elsewhere where the program has already been set up are all under study at the present time.

When the Veterans Administration approves and signs the contract, the first contact between the doctors and the new Veterans Medical Service Operating Committee will come through a letter

which will be sent out to the physicians enclosing a postcard which the physician will sign to indicate his desire to participate in the program. Once that card has been placed on file, all future contacts and inquiries relative to medical services to veterans will be directed by Minnesota physicians to the Veterans Medical Service Operating Committee at the State Office and not to the Veterans Facility.

SOCIALISM SEEN TAKING SIDE-DOOR APPROACH

Wagner-Murray-Dingell salesmen haven't sold anything at the American front door yet, but some of their products are getting in through the side entrance.

A bulletin from the Insurance Economics Society of America makes this observation, pointing out several pieces of legislation that have been slipped into the statute books almost unnoticed, to pave the way for state health insurance.

Among these innocent-appearing measures is the railroad unemployment compensation act that provides $25 a week for twenty-six weeks to railroad workers for unemployment resulting from accidents or sickness. This bill was passed in the closing days of the 79th Congress.

And there was the amendment to the social security act which passed at the last moment, providing for the turning over of accumulated taxes paid by employes for unemployment insurance to those states that enact unemployment disability compensation measures.

An amendment to the National Service Life Insurance act also managed to squeeze in. This permits veterans to add disability insurance to their government life insurance in the amount of $5 a month benefit for each $1,000 worth of life insurance which they hold.

Even though the American public may not be conscious of these piecemeal approaches to the final objective—state health insurance—nevertheless, the ease with which they got by constitutes a real threat. If many more like measures gain acceptance, the country will unwittingly be conquered by degrees and political control of medicine will be here, without the people ever knowing it was on the way.

BATTLE FOR CONTROL OF MEDICINE GROWS EVER MORE INVOLVED

The battle for the preservation of the American System of Medicine grows ever more involved. On every hand more and more organized groups are entering the picture, working toward the objectives of political control of medicine. Some groups seek to place the control in the hands of the consumer through the establishment of more and better health co-operatives. These consumer-control advocates, AMA officials have pointed out, are trying to "change the principles of medical ethics, medical education and the very methods of medical practice." Labor groups have also decided to get into the fight with their own prepayment plans and are seeking the passage of legislation which will enable them to sell their own health insurance contracts.

Among the recent organizations to come forward in behalf of state health insurance has been a group calling itself the "Committee for the Nation's Health." Having received a citation from President Truman for its earnest efforts "to inform the American people of the values of a comprehensive nation-wide health program and to co-operate with other organizations in promoting the prompt passage of needed legislation," the group has begun distributing literature setting forth its major arguments.

Bulletin Presents "Facts"

Here is a sample of the kind of bulletin which they are publishing. In pamphlet form, it presents four "FACTS" in bold type with an array of supporting statements underneath in this fashion:

FACT: Existing medical facilities and services cannot cope with America's urgent health needs."

(Under this heading the committee cites the selective service rejection figures, the prevalence of chronic diseases and physical defects in this country, the accident rate and the cost to the nation in man-hours and dollars lost, the lack of proper distribution of hospital facilities, the doctor shortage in rural areas and the maternal and infant mortality rate.)

FACT: Despite our great progress in medical techniques, we lag behind other countries in many health records."

(Here the committee maintains America has higher infant mortality rates than seven other countries; that seven to eleven countries had lower death rates among children; and that 20 or more countries have lower adult death rates—that is in the 35-64 age group.)

FACT: The burden of sickness costs falls unevenly, unpredictably and often on those unable to carry it.

(In support of this statement figures are cited on the cost in per cent of income for medical care for the average family, and it is maintained that people with low incomes have more sickness and need more medical care, yet they receive much less than the higher income groups. The bulletin points out that the burden of medical bills falls on the self-supporting people of moderate means; that when they are unable to pay, it means lowered incomes for doctors; and that business is affected since sick people "aren't good customers." Attention is drawn to the fact that "Medical expenses are the most frequently given reasons for borrowing from small loan companies.")

FACT: Nothing short of passage of the Wagner-Murray-Dingell Bill will provide for the nation's health needs.

(Under this heading is a summary of the bill's provisions.)

Presents Merits of Bill

The bulletin assures the reader that medical services under the Wagner-Murray-Dingell Bill will be available to employed persons, farmers, businessmen and other self-employed and *all* of their dependents; that there will be freedom for patients and doctors; that the cost will be taken care of by organizing existing expenditures, not by spending any new money. It maintains that the bill will see that preventive medicine is provided for and that administration will be decentralized. Medical research and education are to be added, and for the average doctor a larger and more stable income will result.

"Voluntary health insurance plans will not meet the need," the bulletin asserts. "The health insurance plans sponsored by medical societies operate in less than half the states, have not given evidence of extensive growth, usually offer only limited services at relatively high cost and their management includes no representation of the people who pay the bills."

Groups of the type which authored the above statements are saturating the country with this kind of propaganda. This particular group even has the sanction of the churches in this country, through the endorsement by Bishop Oxnam, President of the Federal Council of Churches of America.

Council Study Answers Committee

The Research Council for Economic Security has the type of thoughtful answer needed to silence the clamorings of this Committee for the Nation's Health. The Council has recently completed an exhaustive study and has published the findings in an article entitled "Our National Health Problem."

"Those who advocate some single measure to safeguard national health," says the Council, "fail to realize the complexity of the problem."

The Council points out that health conditions in this country have not stood still, that "over the last thirty to fifty years, both public and private enterprise have made great strides in improving health conditions.

"Public enterprise has made its contribution in the field of sanitation and public hygiene as well as education. Private enterprise has brought about profound changes in the kind and amount of protection people have against illness, accident, and other hazards. This is not only true of medical science and its application, but applies equally strongly to the expansion of individual and groups insurance, of Blue Cross Plans and prepaid medical care."

The study which the Council has made shows the enormous differences among the forty-eight states in population, medical facilities and other matters related to health. For instance, in heart disease, of the nine states with the highest mortality rate, seven are in New England. People in New England reach a higher age than any other region and since heart disease is a disease of old age, this explains why more people die from heart disease in New England. The death rate from heart disease in this region is evidence of long life, not poor health..

Cite Cancer Mortality

To cite another interesting fact, cancer mortality is most pronounced among older persons having good incomes and living in cities. Six of the seven highest states in cancer deaths are in New England, while influenza and pneumonia death rates are highest in the South where poverty and poor sanitation are important contributing factors.

The study shows clearly how much the health problems of one community differ from another, how disease attacks here and there, as if organized into small guerilla bands, which must be conquered one at a time. Hence, no big, all-inclusive remedy is possible.

The Council points out that the same unevenness shows up in the distribution of medical facilities,

although for other reasons. This means that a mere multiplication of existing facilities would not solve the problem.

"No matter what conditions we undertake to improve," says the Council, "we would waste our efforts if we blanketed the country with a packaged program." The study shows the grave danger in oversimplifying the problem. If there are, for example, two or three times as many physicians and hospital beds in one state as in another, the remedy is not to provide two or three times the number of physicians and hospital beds in the underprivileged area. The need is not for mere addition of numbers, but for a reorganization of services and for more strategic placement of facilities that are adapted to the specific needs of each section.

Must Improve General Conditions

The one basic principle which stands out above all others, according to the Council, is that "the health of the people ultimately can be safeguarded not so much by meeting problems of immediate disease as by improving all the conditions of life which affect health."

Hundreds of attempts have been made and are being made which have direct or indirect bearing upon the improvement of our national health conditions, the Council says. It is the conclusion of the groups that these attempts will continue to expand unless curtailed by competing federal services.

Whereas it is the sincere desire of many groups to take the sane and sensible approach to the problem of health needs, it can be shown that state health insurance has often been fostered for political reasons and not because of a demand from the people themselves.

Bismarck, in 1883, forced the passage of the law legalizing state control of medicine in Germany simply because he needed political capital to use against the Social Democrats. As for the British system, it was admitted by Lloyd George in 1938 that "It is probable that the need of the Liberals to take votes from the growing Labor Party had more to do with the adoption of health insurance than the need of the poor for medical care."

Political expediency has been such a universal reason for the adoption of health insurance that a noted sociologist recently termed it "the politician's panacea for social unrest." The element of socialism in state control of medicine and the fact that the underlying principles of state health insurance run counter to the principles of freedom of action embodied in Democracy constitute the more serious objections to such systems. Opponents of socialism see in it a final end to all initiative. As the British novelist, Charles Morgan, so aptly phrased it: "Socialism, as now interpreted, is competition without prizes, boredom without hope, war without victory, and statistics without end."

NORTH CENTRAL CONFERENCE HELD IN SAINT PAUL, NOVEMBER 10

The North Central Medical Conference, including physicians from the states of Iowa, Minnesota, Nebraska, North and South Dakota and Wisconsin met at the Hotel Saint Paul on Sunday, November 10, 1946.

The conference opened at 10 a.m., with dinner at 12:30 and an afternoon session at 2 o'clock. In conjunction with the conference, one of the regional meetings of the AMA Council on Medical Service was held.

Among the important guests invited to attend were Dr. George F. Lull, AMA Secretary; Mr. Thomas Hendricks, Secretary of the AMA Council on Medical Service; Dr. E. J. McCormick, Toledo, Ohio, Council chairman; Dr. L. W. Larson, Bismarck, North Dakota, member of the AMA Committee on Rural Medical Service; Dr. G. D. Williams, Veterans Administration, Washington, D. C.; and Dr. H. E. Hilleboe, Bureau of State Services, U. S. Public Health Service, Washington.

As usual, talks at the conference featured current, mutual medical problems in this area, with ample periods of discussion allowed in which all doctors concerned were urged to participate.

MASS CHEST X-RAY SURVEY IN MINNEAPOLIS

A program which will provide free chest x-rays for all of the residents of Minneapolis has been approved by the United States Public Health Service. Intentions to launch such a program were announced at a meeting September 20 of the State Committee on Tuberculosis by the Board of Directors of the Hennepin County Medical Society.

The Public Health Service is to provide seven mobile testing units and a staff, which, it is estimated, will represent an investment in local health improvement of at least $500,000.

This mass chest x-ray survey is the first to be attempted in a city as large as Minneapolis. And to justify the expenditure involved, Dr. Frank J. Hill, Minneapolis Health Officer, has announced that adequate follow-up programs will be provided to make it count in a long-term health program for Minneapolis.

At present a planning committee is being named by the Hennepin County Medical Society to make the necessary preparations for the program, which, it is expected, will begin in the spring and will take several months to complete.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

230 Lowry Medical Arts Bldg., Saint Paul, Minnesota
Julian F. Dubois, M.D., Secretary

Minneapolis Woman Pleads Guilty to Criminal Abortion

Re. State of Minnesota vs. Blanche Rowland, also known as Blanche Roland.

Blanche Roland, sixty-three years of age, 4905 Lyndale Avenue South, Minneapolis, entered a plea of guilty in the District Court of Hennepin County to two separate informations each charging her with the crime of abortion. Because of the defendant's age and the condition of her health and upon the recommendation of legal counsel for the State Board of Medical Examiners, Judge John A. Weeks sentenced the defendant to two separate terms of not to exceed four years in the Women's Reformatory at Shakopee and placed the defendant on probation. Judge Weeks told the defendant that unless she got out of the abortion racket and stayed out of it, not even her health or her age would keep her from serving eight years in the Women's Reformatory at Shakopee.

The defendant, who claims to be a licensed embalmer, when questioned by Judge Weeks as to her knowledge of doing criminal abortions, stated that many years ago she worked as a practical nurse for a South Dakota doctor who occasionally performed abortions. She also admitted that she had been performing an occasional abortion in Minneapolis over a period of the last fifteen years. The defendant was arrested on August 2, 1946, by Inspector Bernath of the Minneapolis Police Department following the admission of a twenty-year-old Minneapolis girl at Minneapolis General Hospital suffering from the after-effects of a criminal abortion. While that case was under investigation, it was learned that a second patient had been admitted to another Minneapolis hospital also suffering from the effect of a criminal abortion performed by the defendant.

Saint Paul Painter Pleads Guilty to Criminal Abortion

Re. State of Minnesota vs. Thomas F. Jackamore

On September 10, 1946, Thomas F. Jackamore, fifty-five years of age, 822 Carroll Avenue, Saint Paul, Minnesota, entered a plea of guilty in the District Court of Ramsey County to an information charging him with the crime of abortion. On the same date the defendant, Jackamore, was arraigned on an information charging him with having previously been convicted of a felony, to-wit: grand larceny in the second degree. Judge Robert V. Rensch of the District Court of Ramsey County, before whom the defendant entered his pleas of guilty, referred the matter to the probation officer for a presentence investigation. On September 17, 1946, Judge Rensch sentenced Jackamore to a term of two to eight years in the State Prison at Stillwater, stayed the sentence and placed the defendant on probation for the same length of time. If the defendant violates any of the laws of the State of Minnesota in the meanwhile, the stay of sentence will be revoked and Jackamore taken to prison to serve his sentence.

Jackamore, at the time of his arrest, admitted that he had performed five or six criminal abortions in the three months previous to his arrest, the complaint being filed against Jackamore on June 17, 1946. In the case for which he was prosecuted Jackamore admitted receiving $125. The abortion was performed at Jackamore's home by means of a catheter. Jackamore stated that he is a painter by trade and prior to that worked as a machinist.

Jackamore has a previous criminal record dating back to September, 1934, at which time an information was filed against him in the District Court of Ramsey County charging him with the theft of a typewriter from the State Capitol Building in Saint Paul. On September 18, 1934, Jackamore pleaded guilty to that charge and on September 25, 1934, was sentenced to serve sixty days in the Saint Paul Workhouse, which sentence he served.

Minneapolis Healer Sentenced to One Year Workhouse Term

Re. State of Minnesota vs. Walter W. Miller

On October 4, 1946, Walter W. Miller, fifty-three years of age, was sentenced by the Hon. John A. Weeks, Judge of the District Court, to a term of one year in the Minneapolis Workhouse. The sentence was stayed and the defendant placed on probation for one year. Miller had previously entered a plea of guilty on September 5, 1946, before Judge Weeks, to an information charging him with the crime of practicing healing without a basic science certificate.

Miller was arrested by Inspector Bernath of the Minneapolis Police Department on September 3, 1946, following an investigation which disclosed that Miller, who resides at 3316 Aldrich Avenue South, Minneapolis, was examining patients, prescribing diets, administering massage treatments and furnishing medicine. Miller charged no specified fee but indicated to patients that they could give what they liked. Miller stated that he was born in Minneapolis in 1893, and for eighteen years was employed by a large Minneapolis insurance company. He then claims that he discovered he had "psychic power" and went to California in 1926, returning to Minneapolis in 1934. He practiced as a healer at Cokato, Minnesota, in 1938, and in 1941 was located at Hutchinson, Minnesota. The defendant has no medical training of any kind and when asked by a police officer what people called him he replied that some called him "a healer or a faith doctor and some people called him a fake."

Minneapolis Osteopath Sentenced for Criminal Abortion

Re. State of Minnesota vs. Harry F. Rydell

On September 25, 1946, Harry F. Rydell, fifty-seven years of age, a licensed osteopath, with offices at 541 Lumber Exchange Bldg., Minneapolis, was sentenced by the Hon. John A. Weeks, Judge of the District

Court of Hennepin County, to a term of not to exceed four years in the State Prison at Stillwater for the crime of abortion. Rydell had pleaded guilty on September 4, 1946, to an information charging him with the crime of abortion. The case, at that time, was referred to the Probation Officer for a presentence investigation, and on September 25, Judge Weeks, following the imposition of sentence, stayed the sentence and placed the defendant on probation for four years. Judge Weeks warned the defendant that if he violated the laws of Minnesota, in any manner, the stay would be revoked and Rydell would have to serve his prison sentence.

Rydell was arrested by Minneapolis police officers on August 26, 1946, following an investigation which disclosed that Rydell had performed a criminal abortion on a twenty-nine-year-old married Minneapolis woman. At the time of his arrest, Rydell admitted that he was in the abortion racket and had been in it for several years. In the instant case, the patient stated the abortion was performed by injecting a paste. The patient also stated that she paid the defendant $100 for the abortion.

License of Minneapolis Physician Revoked for Theft

In the Matter of the Revocation of the License of Jerome Ettinger, M.D.

On July 12, 1946, the Minnesota State Board of Medical Examiners, following a hearing, revoked the license to practice medicine previously issued to Jerome Ettinger, M.D., Minneapolis, Minnesota. Dr. Ettinger had been cited to show cause why his license should not be revoked for immoral, dishonorable and unprofessional conduct following the apprehension of Dr. Ettinger on April 4, 1946, while in the act of stealing money in the dressing room adjacent to the operating room of a Minneapolis hospital. The citation contained twelve charges of theft against Dr. Ettinger over a period of four months from December, 1945, to April, 1946, and involving $352 in cash and a fountain pen from other doctors and interns. All of the thefts occurred in the dressing room of the same hospital. Dr. Ettinger appeared in person before the Medical Board and admitted the thefts.

Dr. Ettinger was born July 25, 1919, at Indianapolis, Indiana. He attended the Medical School of the University of Indiana from 1940 to 1942, and thereafter the Medical School of Northwestern University, graduating from the latter school with a Bachelor of Medicine Degree in 1943, and a Doctor of Medicine Degree September 30, 1944. He interned at the Michael Reese Hospital, Chicago, in 1944. He was licensed to practice medicine in Minnesota on February 8, 1946, by examination. The Medical Board was unable to find any extenuating circumstances in the case. Dr. Ettinger had an income of $200 per month at the time of the thefts and had on deposit, in two banks, $1550. At the time of his appearance before the Medical Board on July 12, 1946, Dr. Ettinger stated that he was then employed as a surgeon by the United States Veterans Administration at Van Nuys, California.

Tune in on station WCCO at 4:45 p.m. on Wednesdays and hear Lionel Barrymore as narrator in "The Constant Invader," second series of dramatization on tuberculosis. The role of the private physician and others who are taking leading parts in the campaign is dramatized. This program is a part of the educational program financed by Christmas Seals.

CHRISTMAS SEAL SALE

The fortieth annual Christmas Seal Sale to raise funds to fight tuberculosis is now on throughout Minnesota and the nation. The 1946 Christmas Seal design is a lamplighter and is symbolic of the light of knowledge about tuberculosis that has been spread through the little health seals.

Among the facts being emphasized in the educational campaign which accompanies the Seal sale are the following:

Tuberculosis causes more deaths than all other infectious and parasitic diseases combined.

It is the No. 1 killer between the ages of fifteen and thirty-five.

It takes a life in the United States every ten minutes.

Every year in the United States it kills one and one-half times as many men as women.

To commemorate the fortieth annual sale, each sheet of Seals has a center insert of four special Seals bearing the likeness of one woman and three men who made outstanding contributions to the first Seal sale in 1907.

They were Jacob Riis, Danish-born American who has been called "one of America's most useful citizens;" Miss Emily P. Bissell, social worker of Wilmington, Del.; E. A. Van Valkenburg, newspaper publisher and editor, and Leigh Mitchell Hodges, newspaper columnist.

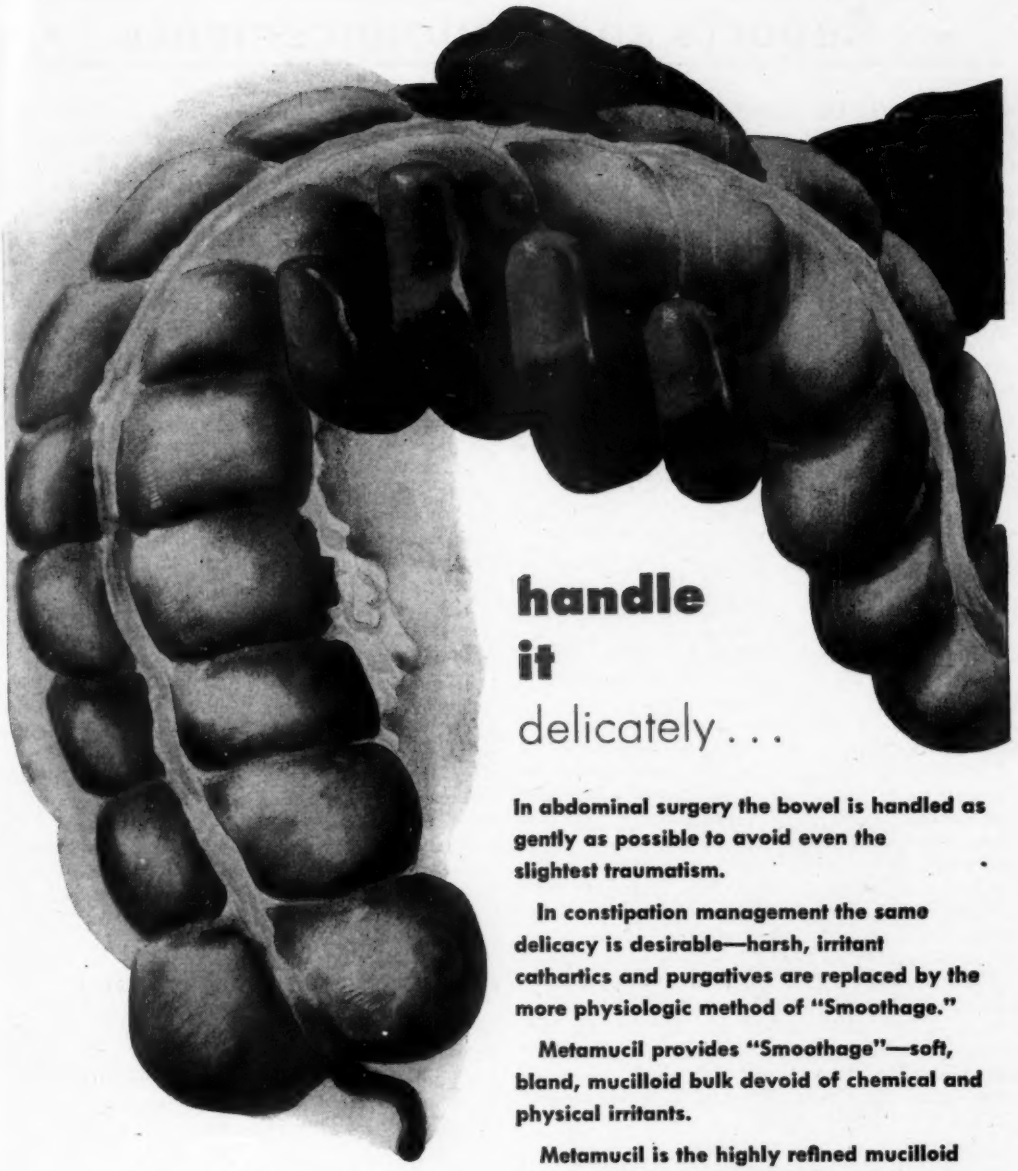
Jacob Riis is honored on the 1946 Seals because in July, 1907, after receiving a letter from Denmark bearing Christmas Seals, which had been sold in that country since 1904, he wrote an article for an American magazine urging the adoption of the idea in this country as a means of financing a campaign against tuberculosis, then the first cause of death in the United States.

Miss Bissell recalled that article a few months later when some doctors appealed to her to help them raise funds to continue their care of a small group of tuberculous patients in Brandywine, Delaware. Miss Bissell believed that she could raise the needed $300 by selling Christmas Seals to her friends and their friends. So she herself designed a simple greeting stamp and had it printed at her own expense.

Mr. Van Valkenburg, editor and publisher of the *Philadelphia North American*, and Mr. Hodges, author of a column in that paper, learned of Miss Bissell's brave attempt to raise money for the tuberculous and threw the weight of the newspaper behind her campaign. At the end of the holidays, Miss Bissell was able to turn over to the physicians $3,000 instead of $300.

The following year the Christmas Seal sale was conducted nationally to raise funds for the campaign against tuberculosis throughout the country.

Since 1910, Christmas Seals have supported the tuberculosis control program of the National Tuberculosis Association, which had been organized in 1904, and its affiliated associations. The Minnesota Public Health Association is the branch of the National Tuberculosis Association which serves the people of Minnesota.



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RESEARCH IN THE SERVICE OF MEDICINE

Reports and Announcements

MEDICAL BROADCAST FOR NOVEMBER

The following radio schedule of talks on medical and dental subjects by William O'Brien, M.D., Director of Postgraduate Medical Education, University of Minnesota, is sponsored by the Minnesota State Medical Association, the Minnesota State Dental Association, the Minnesota Hospital Association and the University of Minnesota School of the Air.

2—11:30 A.M.	KUOM-KROC-KFAM	Medicine in the News
5— 4:45 P.M.	WCCO	The Nurse in the Maternity Ward
6—11:00 A.M.	KUOM	Clean Hands Are Always Safe Hands
7— 4:45 P.M.	WCCO	Safe Convoy for Expectant Mother
9—11:30 A.M.	KUOM-KROC-KFAM	Medicine in the News
12— 4:45 P.M.	WCCO	Developments in the Field of Anesthesia
13—11:00 A.M.	KUOM	Your Teeth Influence Your Whole Body
14— 4:45 P.M.	WCCO	Ailments During Pregnancy
16—11:30 A.M.	KUOM-KROC-KFAM	Medicine in the News
19— 4:45 P.M.	WCCO	The Nurse in the Diet Kitchen
20—11:00 A.M.	KUOM	Voice and Face Reflect the Personality
21— 4:45 P.M.	WCCO	Diet During Pregnancy
23—11:30 A.M.	KUOM-KROC-KFAM	Medicine in the News
26— 4.45 P.M.	WCCO	Newborn Nursery
27—11:00 A.M.	KUOM	Good Eyesight Makes Learning Easier
28— 4:45 P.M.	WCCO	Care of Teeth During Pregnancy
30—11:30 A.M.	KUOM-KROC-KFAM	Medicine in the News

AMA CENTENNIAL

The American Medical Association will celebrate its centennial in Atlantic City, June 9-13, 1947. Elaborate plans are being made for this celebration.

Only Fellows and invited guests are eligible to attend. Membership in your state society is the primary qualification for Fellowship in the AMA. Fellowship dues and subscription to *The Journal A.M.A.* are both included in one annual payment of $8.00, which is the cost of *The Journal* to subscribers who are not Fellows.

If you are not a Fellow and plan to attend the Atlantic City session, which will be a milestone in medical history, you can save yourself considerable time and confusion when registering, if you will write now to the American Medical Association, 535 North Dearborn Street, Chicago 10, and ask if you are eligible to become a Fellow.

THIRD AMERICAN CONGRESS ON OBSTETRICS AND GYNECOLOGY

The Third American Congress on Obstetrics and Gynecology will be held from September 8-12, 1947, in the Municipal Auditorium in St. Louis, Missouri. The Second Congress was held in the same place in 1942 and the First Congress in Cleveland in 1939. Dr. Fred L. Adair of Chicago is again General Chairman.

While the Third Congress is similar in scope and program to the two previous meetings it will be larger in every way. The program under the direction of Dr. William F. Mengert of Dallas is being made up to appeal to the obstetric and gynecologic specialist, to the general practitioner interested in those fields, to the hospital administrator, and to nurses. The program will include sections for the public health doctor and the public health nurse. The medical section of the program is under the direction of Dr. Ralph A. Reis of Chicago, as in 1942.

The Scientific Exhibits are under the guidance of Dr. Jean Paul Pratt of Henry Ford Hospital. The Moving Picture Program is being made up by Dr. John Park of Washington, D. C. Dr. John Rock of Boston heads the Committee on Evening Speakers. The Technical Exhibit has been arranged by Dr. Philip F. Williams of Philadelphia. A Membership Committee in every state and in the territories is being set up by Dr. Ralph E. Campbell of Madison, Wisconsin, and plans are under way to have a special committee build up interest in the Congress in Central and South America. Dr. Harvey B. Matthews of Brooklyn heads the committee in charge of publicity. The General Advisory Committee is in charge of Dr. Howard C. Taylor, Jr. The Local Organization Committee in St. Louis is headed by Dr. Richard Paddock.

The Friday morning sessions of the Congress, September 12, are to be given over entirely to the National Federation of Obstetric-Gynecologic Societies. The program for these sessions will be arranged by a committee working under Dr. James S. Taylor of Altoona. One member of this committee, Dr. E. Lee Dorsett, of St. Louis, will arrange an evening speaker for the Federation of nationwide prominence who will present his viewpoints to a joint meeting of the Congress, the Federation and the general public.

GASTROENTEROLOGY AWARD CONTEST

The National Gastroenterological Association announces its Annual Cash Prize Award Contest for 1947. One hundred dollars and a Certificate of Merit will be given for the best unpublished contribution on Gastroenterology or allied subjects. Certificates will also be awarded those physicians whose contributions are deemed worthy.

Contestants residing in the United States must be members of the American Medical Association. Those residing in foreign countries must be members of a similar organization in their own country. The winning contribution will be selected by a board of impartial judges, and the award is to be made at the annual convention banquet of the National Gastroenterological Association in June, 1947.

Certificates awarded to other physicians will be mailed to them. The decision of the judges will be final. The Association reserves the exclusive right of publishing the

(Continued on Page 1160)

FACTS ABOUT THE PREPARATION OF

Campbell's STRAINED BABY SOUPS

Q. How are meats prepared for the soups?

A. The full protein and other nutritive values in meat are available only when the meat solids as well as the juices of meat are used. Campbell's method of comminuting the meat—superior to the "scraping" common in home use—assures that all the edible solids as well as all the juices are included. Four of the Campbell's Strained Baby Soups have a meat base: Chicken, Liver, Lamb and Beef.

Q. How early may these soups be started?

A. That depends entirely upon the individual baby and the physician's judgment. However, these soups are intended for use as early as any strained baby food. The soups are not seasoned (except for light salting) and are of smooth texture and uniform consistency. A comprehensive analysis of each soup may be had upon request to Campbell Soup Company, Camden, New Jersey.

Q. How are vegetables prepared for the soups?

A. Both the flavor and the nutritive values of vegetables naturally depend in great part upon the way they are handled and cooked. Campbell's have developed a method, based on the latest scientific knowledge, which retains the minerals and efficiently conserves the vitamins, as well as the wholesome natural flavors.

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An Announcement

To DOCTORS Cooperating With VETERANS ADMINISTRATION

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Postural Syndrome
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Visceroptosis or Nephroptosis With Symptoms
Spinal or Abdominal Postoperative

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(Continued from Page 1158)

winning contribution, and those receiving certificates of merit, in its official publication, *The Review of Gastroenterology*. All entries for the 1947 prize should be limited to 5,000 words, be typewritten in English, prepared in manuscript form, submitted in five copies, accompanied by an entry letter, and must be received not later than April 1, 1947. Entries should be addressed to the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

WABASHA COUNTY MEDICAL SOCIETY

The seventy-eighth annual meeting of the Wabasha County Medical Society was held at Elgin on October 10, 1946, with an attendance of twenty-six members, guests and eight doctors' wives. The members convened at 4 p.m. at the office of Dr. Earl W. Ellis and the business session opened at 4:30. Dinner was served at the City Cafe at six o'clock, and a scientific session followed. The addresses were: "Paget's Disease, with Case Report," Dr. Ellis; "Present Status of the General Practitioner," Dr. Henry Diessner, of Minneapolis; "Communicable Diseases of Childhood and the State Survey of Child Health Services," Dr. George B. Logan, of Rochester.

New officers elected are: Dr. Bernard A. Flesche, Lake City, president; Dr. Robert N. Bowers, Lake City, vice president; Dr. William F. Wilson, Lake City, secretary-treasurer. Dr. Ellis was chosen as delegate to the State Medical Association, and Dr. Emery C. Bayley, Lake City, as alternate. Dr. Thomas Gibbs Wellman, Lake City, was elected censor for a term of three years. The carry-over censors are Dr. Robert A. Glabe, Plainview, and Dr. Robert G. Ochsner, Wabasha.

Dr. Ellis, the retiring president, Dr. Glabe, and Dr. Donald G. Mahle, of Lake City, were in charge of arrangements for the meeting.

VACCINATION AGAINST INFLUENZA

(Continued from Page 1150)

precipitation method which is several times weaker in virus content and, therefore, presumably less effective. One inoculation of 1 c.c. produces a sharp increase in immunity in two weeks in over 90 per cent of those inoculated, and only a slight decline occurs after four months. Antibody titres are still above prevaccination levels at the end of a year but protection should not be expected for more than a few months.

It is suggested that the dose of 1 c.c. of the mixed vaccine may be divided, giving 0.5 c.c. first and a second 0.5 c.c. in a week. In children, fractional doses at three-day intervals, until the full 1 c.c. is given, are recommended. In most adult cases, however, the full 1 c.c. dose is given. Individuals who are known to be sensitive to eggs should not be vaccinated.

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In Memoriam

JAMES TRENT CHRISTISON

Dr. James T. Christison, prominent pediatrician of Saint Paul for many years, died September 14, 1946, at the age of eighty.

Dr. Christison was born of Scotch parents at Southampton, England, October 2, 1865. His family moved to Ontario and he obtained his preliminary education at Collegiate Institute at Ingersoll, Ontario. He later attended the University of Michigan. He received his medical education from the Long Island College Hospital where he graduated in 1890 and the University of Minnesota Medical School in 1891. He began practice in Saint Paul in 1891 and took postgraduate work in pediatrics in Boston in 1896 and in New York in 1898. In 1913 he visited Vienna, Berlin and London.

Dr. Christison was a charter member of the Minnesota Chapter of Nu Sigma Nu, of which there are now only two surviving charter members, namely, Dr. George F. Senkler of Saint Paul and Dr. E. S. Boleyn of Stillwater. Dr. Christison was active in organized medicine, having been president of the Ramsey County Medical Society in 1917, president of the Minnesota State Medical Association in 1929 and delegate to the American Medical Association. His society membership included the Minnesota Academy of Medicine of which he was president in 1918 and the Northwest Pediatric Society. He joined the Miller Clinic, Saint Paul, upon its organization in 1920.

Dr. Christison was an active 33rd degree Mason, a former head of the Scottish Rite, and was named Grand Viceroy of the Red Cross of Constantine, the world's oldest Masonic organization. He served as president of the Minnesota Masonic Veterans Association, and was also active in the founding of the Shrine Hospital for Crippled Children in Saint Paul.

In 1910 Dr. Christison was one of the founders of the Saint Paul Baby Welfare Association which did so much for the care and feeding of children, an activity which has been merged with the Visiting Nurses Association. He also worked long and hard to secure a better milk supply for Saint Paul and was active in the Minnesota Public Health Association during its early years.

Dr. Christison became associated with the University of Minnesota Medical School in the early nineties and became Clinical Professor of Pediatrics. He was one of the group of professors for whom a testimonial dinner was given at the Minnesota Union on June 10, 1936 on the occasion of their retirement. Upon his resignation from the Editing and Publishing Committee of MINNESOTA MEDICINE in 1939, on which he had served as a member since 1919 and as chairman since 1932, the State House of Delegates passed a resolution expressing appreciation of his contributions to the practice of

(Continued on Page 1164)

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(Continued from Page 1162)

medicine in Minnesota and his services to organized medicine.

Dr. Christison was married in 1908 and is survived by his widow, Margaret Godwin Edgerton, a son, Robert, and a daughter, Mrs. William A. Warren and two brothers, John S. and William, all of Saint Paul.

Dr. Christison, affectionately known as "Christy" by his friends, of whom he had a host both in the profession and outside, was a gentleman in every way and a good doctor devoted to his patients over a period of nearly fifty years. In addition, he did much in the field of Public Health.

WALTER R. RAMSEY, M.D.

CARL MARTIN ROAN

Dr. Carl Martin Roan, Minneapolis, died on September 11, 1946, at the age of sixty-eight.

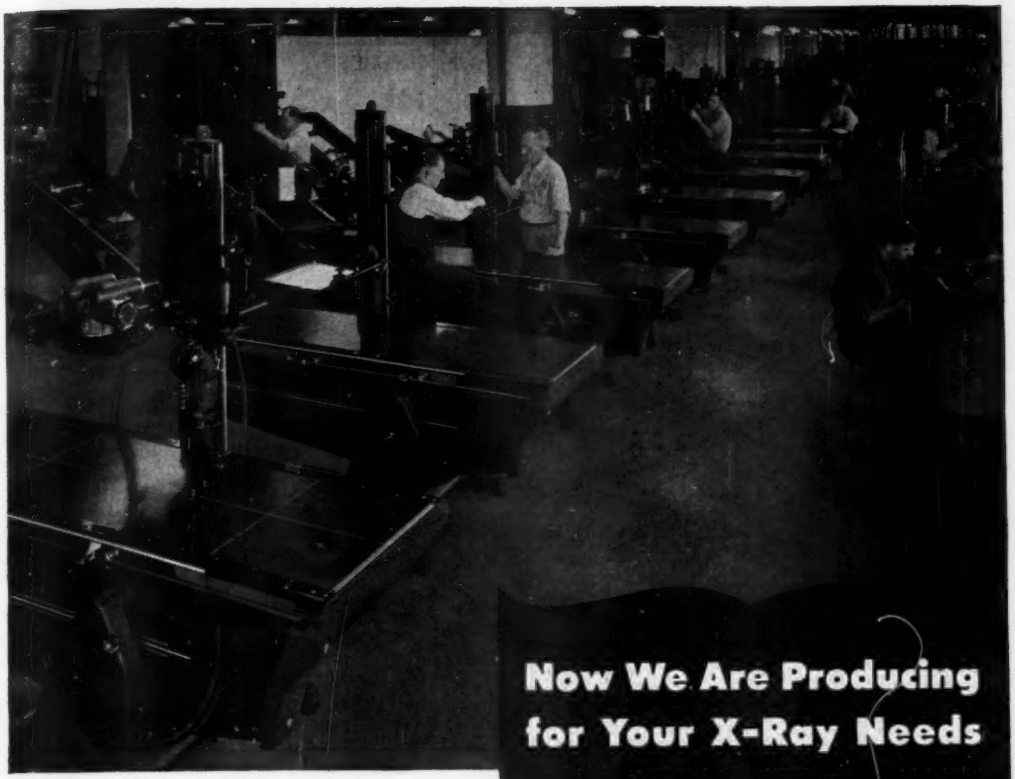
He was born in McLeod County, Minnesota, May 26, 1878, the son of Ole Roan Johnson and Beret Eggen who came to America in the 1850's from Norway.

He received his early education in Todd County, Minnesota, his high school diploma at Augsburg Academy and a B.A. degree at Augsburg College in 1904. In 1908 he graduated from the University of Minnesota Medical School and later took graduate work at Tulane University, New York University and the University of Copenhagen in Denmark.

On November 15, 1904, he married Marie Sletten in Minneapolis. Their children are Chester, Ove (deceased 1937), Morton, Mildred (Mrs. Thomas Marron), Grace, and Vincent. Grandchildren are Michael Roan, Judith and Patricia Marron. Surviving brothers and sisters are Mrs. E. O. Larson, Minneapolis, Mrs. Caroline Granum, Sundre, Alberta, Canada, and Levi Roan, Bellflower, California.

He was a member of the surgical staff of Deaconess Hospital and also instructor in their nurses' training school for thirty-two years. Some of his other affiliations included the Hennepin County Medical Society, Minnesota State Medical Association, Minneapolis Surgical Society and the Minnesota Pathological Society. He was also a Fellow of the American College of Surgeons, 1922; contract surgeon in United States Army, 1917-18, stationed at University of Minnesota; and deputy coroner of Hennepin County, 1908-18.

Dr. Roan was a member of Central Lutheran Church, a director of Lutheran Brotherhood Life Insurance Company, a director of the Union City Mission of Minneapolis, a director of the Twin City Federal Savings and Loan Association, a member of the Board of Public Welfare, co-founder of Ebenezer Home for the Aged, a member of the Minneapolis Charter Commission, the Minnesota and National Safety Council, Minnesota Territorial Society, Minnesota Historical Society, Minneapolis Athletic Club, Sons of Norway, Minneapolis Automobile Club, Commonwealth Club, and American Legion Giant Valley Post. He was an author of several books in Norwegian and in English.



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Of General Interest

Dr. Raymond C. Hottinger has resumed his practice at Janesville, with offices in the Miner Block.

* * *

Dr. Frank Krusen, head of the section on physical medicine at the Mayo Clinic, has been made a member of the National Arthritis Research Foundation.

* * *

Dr. James H. Bender, physician and surgeon, has resumed his practice in Brainerd with offices at 200B Iron Exchange Building.

* * *

Dr. Howard Kaliher, formerly of Foley, has joined Dr. M. Korda in partnership at Pelican Rapids, where they will operate a hospital.

* * *

Mrs. Dora S. Cremer, widow of the late Dr. M. H. Cremer, prominent physician of Red Wing, Minnesota, died October 7, 1946. Dr. Cremer passed away in 1934.

* * *

Dr. Paul Schoeneberger, formerly of Perham, who was recently separated from the Army Medical Corps after thirty months of service, has joined Dr. James J. Warner in the practice of medicine at Crookston.

* * *

Dr. Walter E. Richardson has closed his offices at Rushford and retired from private practice to become supervisor of first aid and health at the John E. Morrell Packing Plant at Sioux Falls, South Dakota.

* * *

Dr. Henry J. Kurtin, Blooming Prairie, who recently underwent an appendectomy at the city hospital in Owatonna, has completely recovered his usual good health and has resumed his practice.

* * *

Dr. Robert D. Mussey, of the Mayo Clinic, was named president-elect of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons at their recent meeting at Hot Springs, Virginia.

* * *

Joint monthly meetings are now being held alternately in Mankato, St. Peter, and New Ulm by the Redwood-Brown, Nicollet-Le Sueur and Blue Earth County Medical Societies.

* * *

Dr. John H. Cameron has closed his offices in Erskine and has gone to New York for postgraduate work in diseases of the eye, ear, nose and throat, in which he intends to specialize in the future.

* * *

A leave of absence has been granted by the Estrem Clinic at Fergus Falls to Dr. Robert D. Estrem for three years, during which he will do postgraduate work in surgery under a fellowship at the University of Minnesota Hospitals. Dr. Estrem will also be associated part time with the Veterans Hospital in Minneapolis.

Speakers at the Health Institute for Better Vision held in Duluth on September 25 included Dr. William A. O'Brien, of the University of Minnesota, Dr. Alvin G. Athens and Dr. Archibald O. Olson, both of Duluth.

* * *

Mrs. Bertha Elsey, wife of Dr. J. R. Elsey of Glenwood, Minnesota, died September 26, 1946. She is survived by Dr. Elsey and a son, Dr. Edward M. Elsey, also of Glenwood.

* * *

Dr. Karl H. Pfuetze, Cannon Falls, was elected governor of the American College of Chest Surgeons for Minnesota at the annual meeting held in San Francisco during the summer.

* * *

Dr. Hamlin Mattson of Minneapolis addressed the Kandiyohi-Swift-Meeker County Medical Society at Appleton on October 17. His subject was: "Newer Surgical Concepts in Inguinal Hernia."

* * *

Dr. H. Worley Kendell, who is at the Mayo Clinic in Rochester on a Baruch fellowship, has been made president-elect of the American Congress of Physical Medicine. Dr. Kendell will take office at the next annual meeting in September, 1947.

* * *

Dr. Robert G. Green was the speaker at the meeting of the Minnesota Pathological Society of the University of Minnesota Medical School held in the Medical Science Amphitheater on October 15. Dr. Green's subject was "Immunological Aspects of Cancer."

* * *

Dr. Gerald A. Knutson, Hallock, has purchased a Cessna, 140-horsepower plane and has already made several trips in it. Dr. Knutson, who took flying lessons during the summer, recently was granted a pilot's license by a Civil Aeronautics Authority examiner.

* * *

Dr. Edward T. Clarke, of Buhl, has been confined to the hospital at Hibbing where his illness was said to be serious, but not critical. Dr. Clarke entered practice in Buhl early in the year, following his discharge from military service.

* * *

Dr. Anton G. Sanderson has been appointed superintendent of the Deerwood Sanatorium, succeeding Dr. Edwin G. Hubin who tendered his resignation during the summer. Dr. Sanderson has been associated with the sanatorium at Walker for the past four years.

* * *

Dr. Arthur J. Myers, director of the tuberculosis section of the Minneapolis Health Department, was elected president of the Mississippi Valley Conference on Tuberculosis at the recent meeting in Chicago. Dr. Myers,

(Continued on Page 1168)

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(Continued from Page 1166)

who is professor of public health and medicine at the University of Minnesota, has been active in tuberculosis preventive work in Minnesota for more than twenty years.

* * *

The marriage of Dr. Walter Subby, formerly of Albert Lea and now resident physician at the Veterans Hospital at Fort Snelling, to Miss Margaret Moody Lathrop, of Saint Paul, was solemnized at the Salem Lutheran Church, Saint Paul, September 10.

* * *

Dr. and Mrs. W. J. Dailey, former residents of Blooming Prairie, who have been living in Oakland, California, for the past twenty-three years, have returned to Blooming Prairie to re-establish their home there. Before going to California, Dr. Dailey had practiced medicine and surgery in Blooming Prairie for twelve years.

* * *

After fifteen years of practice in Houston, Minnesota, Dr. L. Kenneth Onsgard has closed his offices there and has joined the staff of the Grandview Hospital in La Crosse, Wisconsin. A 1924 graduate of St. Olaf College, Dr. Onsgard, took his medical degree at the University of Minnesota in 1929.

* * *

Announcement has been made of the resignation of Dr. Lawrence J. Kaasa of Albert Lea, as chairman of the County Board of Health and also from the board of the Mineral Springs Sanatorium at Cannon Falls. Dr. Kaasa will hereafter be associated with the Veterans Administration in Minneapolis.

* * *

Dr. Charles M. Jessico, Duluth, has been released from active duty in the U. S. Naval Reserve and has resumed his practice of neuropsychiatry at the Duluth Clinic. While in service Dr. Jessico was a member of the staff of the U. S. Naval Hospital at San Leandro, California.

* * *

Robert H. Beals, son of Dr. and Mrs. Hugh Beals of Saint Paul, died October 16, 1946, of pneumonia and a heart complication at the age of twenty-nine. Mr. Beals drove an ambulance in the field service during the war, one of his assignments having been the beachhead at Salerno.

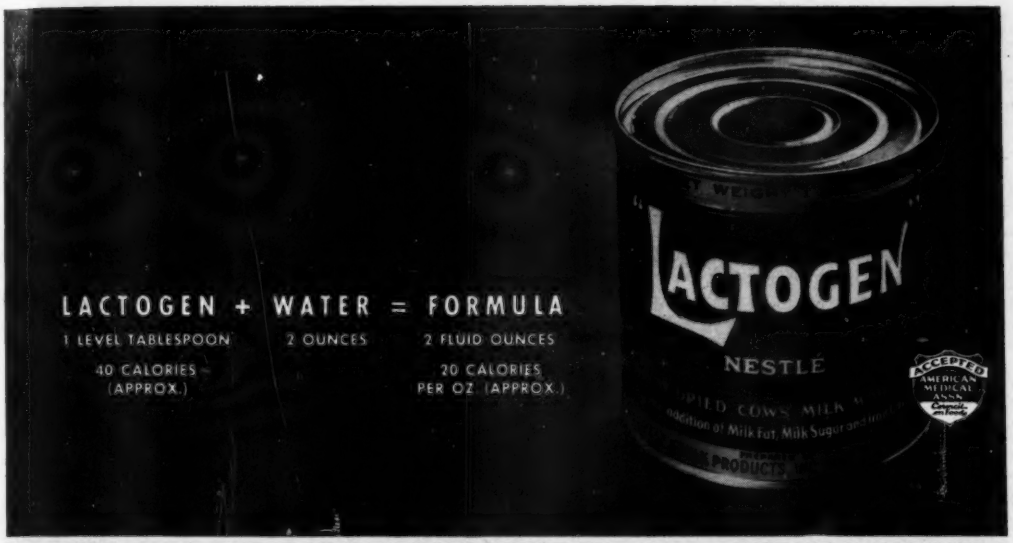
* * *

Drs. Howard K. Gray and Byrl R. Kirklin, of the Mayo Clinic, presented papers at the centennial celebration of the University of Buffalo at Buffalo, New York. Dr. Gray's subject was "Carcinoma of the Pancreas," and Dr. Kirklin's "Radiologic Diagnosis of Cancer of the Gastro-Intestinal Tract."

* * *

Dr. Walter E. Hinz, formerly of Lidgerwood, North Dakota, is now associated in practice with Dr. Howard E. Johnson at Bird Island. Dr. Hinz took his medical degree at Northwestern University and interned at Ancker Hospital in Saint Paul. For the past three years

(Continued on Page 1170)



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(Continued from Page 1168)

he was in the Army Medical Corps and served in both the European and Pacific Theatres.

* * *

At his own request, Dr. Arthur C. Strachauer has been retired as chief surgeon of the Minneapolis, Saint Paul and Salt Ste. Marie Railroad, according to an announcement issued by the company.

Dr. Frank R. Hirshfield, formerly associate chief surgeon, is Dr. Strachauer's successor. Dr. Leo C. Culligan will continues as assistant chief surgeon.

* * *

The Minnesota County Public Health Association has announced the election of Dr. Horton C. Hinshaw, of Rochester, as vice president of the Olmsted County Public Health Association. Dr. Hinshaw, who has taken an active part in the work of the State Christmas Seal organization, is also a vice president of the National Tuberculosis Association.

* * *

The quarterly dinner meeting of the Redwood-Brown Medical Society and Auxiliary was held at New Ulm on October 15, with the Nicollet-Le Sueur and Blue Earth Medical Societies and their Auxiliaries as honored guests. An interesting program included addresses by Dr. Albert M. Snell and Dr. John Waugh, of the Mayo Clinic.

* * *

The following officers were elected by the Southern Minnesota Medical Association at their meeting in Faribault; President, Dr. Charles M. Robilliard, of Faribault; First Vice President, Dr. Charles L. Sherman, of Luverne; Second Vice President, Dr. Lewis I. Younger, of Winona; Secretary, Dr. Wallace Merritt, of Rochester.

* * *

Dr. Philip K. Arzt, Saint Paul, has resumed his practice of neuropsychiatry in association with Dr. Gordon Kamman at 1044 Lowry Medical Arts Building. Dr. Arzt, who was a captain in the Army, was recently released from military service. His assignments were Valley Forge Hospital, McGuire Hospital, and Cushing General Hospital, in the order named.

* * *

More than 2,000 persons felicitated Dr. William W. Will on the occasion of the celebration of his forty years of service at Bertha, Minnesota, on Sunday, September 22. Governor and Mrs. Edward Thye were in the receiving line with Dr. and Mrs. Will, and the first baby delivered by Dr. Will, now almost forty years old, was among those who attended the reception.

* * *

Dr. William O'Brien, director of postgraduate medical education at the University of Minnesota, James Baker, executive secretary of the Hennepin County Medical Society and R. A. Amberg, superintendent of the University Hospitals, were guest speakers at the short course for homemakers held at the University Farm in September.

(Continued on Page 1172)

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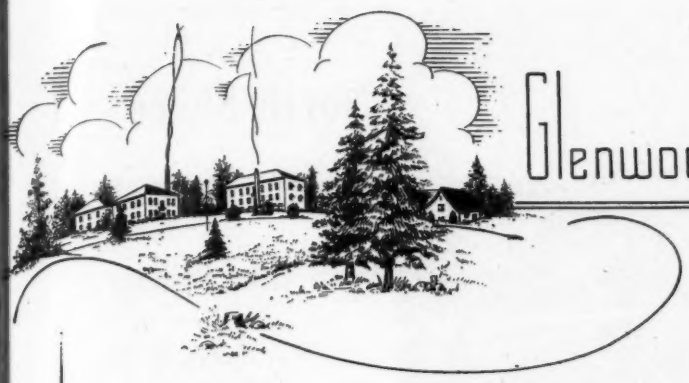

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(Continued from Page 1170)

Announcement has been made of the appointment of Dr. Clare Gates as acting assistant health commissioner for Minneapolis. Dr. Gates, director of public health education in the Minneapolis Health Department, and co-ordinator of the emergency poliomyelitis committee, assumes the duties of the office for one year, during which the Civil Service Commission will hold examinations to secure a permanent appointee.

* * *

Dr. William D. Cleaves, who was in practice at Grand Rapids at the time of his induction into the Army where he served for forty-three months, is now located in Sauk Center with offices in the Hanson and Emerson Medical Building. A flight surgeon in the Air Corps, Dr. Cleaves' assignments included a year in the Air Evacuation Service in the Pacific.

* * *

Announcement has been made of the Appointment of Dr. Margherita C. Ciaramelli as physician in the Carleton College Health Service at Northfield. Officially, she will be known as assistant professor of health and physical education for women.

Dr. Ciaramelli graduated from Hunter College in New York City in 1940 and took her medical degree at the New York University College of Medicine in 1943.

* * *

Mayor Humphrey, of Minneapolis, has announced the appointment of Dr. Charles Merkert, Dr. Frank J. Hill and Dr. Clare Gates as members of a citizen's committee which has been organized for the purpose of studying municipal participation with the Federal government in a city-wide x-ray campaign scheduled to begin about March 1, 1947.

Dr. Merkert is chairman of the public health committee of the Hennepin County Medical Society; Dr. Hill is city health commissioner, and Dr. Gates is the assistant health commissioner.

* * *

The Van Meter Prize Award of $300,000 and two honorable mentions is again being offered for the best essays on original work in problems related to the thyroid gland. Essays should not be more than three thousand words long and may cover either clinical or research investigations. They must be presented in English and in double-spaced typewriting. Address entries to Dr. T. C. Davison, Corresponding Secretary, 207 Doctors Building, Atlanta 3, Georgia. Closing date of the contest is January 1, 1947.

* * *

Dr. Raymond D. Davis, formerly of Clearbrook, is now associated in practice with Dr. Bernard J. Gallagher in Waseca.

Dr. Davis took his medical degree from the University of Minnesota in 1934. Following his graduation he entered the Army where he was on active duty for sixteen months. At the termination of his military service he opened offices at Clearbrook, and remained there until joining Dr. Gallagher at Waseca.

Dr. Ernest S. Mariette, superintendent of Glen Lake Sanatorium and president of the Mississippi Valley Trudeau Society, who has been made president of the Society for a second term, gave the keynote address at the banquet which opened the Society's convention in Chicago on September 26. From there Dr. Mariette went to Philadelphia where he attended the convention of the American Hospital Association and presented a paper on "Postwar Trends in the Care of the Tuberculosis Patient."

* * *

After twelve years of general practice in Northfield, Dr. C. Dexter Lufkin will hereafter specialize in diseases of the chest. Before coming to Northfield, Dr. Lufkin specialized in this branch of medicine for four years. He was assigned to diseases of the chest while a commander in the U. S. Navy with assignment this year at the Naval Hospital at Sampson, New York, which influenced his decision to terminate his general practice. Dr. Lufkin has not yet decided on his location.

* * *

Officers of the Hennepin County Tuberculosis Association elected at a recent meeting of the Board of Directors are: President, Dr. Ernest S. Mariette, superintendent of Glen Lake Sanatorium; First Vice President, Stuart W. Rider; Secretary, W. R. Smith. Mrs. W. P. Christian was re-elected Treasurer and Prudence Cutright, Second Vice President.

The retiring president, Dr. Stephen H. Baxter, has held the office for the past eight years.

Dr. Paul A. Swedenburg, who was recently released from five years of military service, has entered practice in Glenwood, where he is sharing offices with Dr. Manford B. Dahle in the new Clinic building. Dr. Swedenburg, a graduate of the University of Minnesota Medical School, was formerly associated with Dr. Edwin J. Simons at Swanville. As a colonel in the Army Medical Corps, Dr. Swedenberg served for three years in this country and two years in the European Theatre.

* * *

Although Dr. William Wilson has been practicing at Lake City for fifty-two years, he is still on the job. Originally Dr. Wilson taught high school at Faribault where he also did reporting for the *Tribune*. A natural interest in physiology led to six months' study with a physician and then medical college in Chicago.

In talking over his pioneer days in the profession, Dr. Wilson recalled that he delivered three babies in a period of twenty-four hours. One required a ten-mile trip by horse and buggy into the country; one was at Lake City; the third was across the river in Wisconsin, and it took both a boat and a horse to get him there.

* * *

Among the war souvenirs brought back by Dr. Fred W. Gaarde, Jr., of Rochester, from the Pacific Theatre, where he was a member of the Army Medical Corps, is a Japanese soldier's diary recording the battle of Saipan from the time he landed on the island early in

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June until his capture or death. It is probable that this occurred on July 7, since the last entry is dated July 6 and reads: "Received artillery barrage during the night and took refuge among the rocks . . . from around the side of the rock I could see the hateful bearded faces of the enemy shining in the sunlight."

Dr. Gaarde is on a fellowship at the Mayo Clinic.

* * *

Dr. Russell M. Wilder and Dr. Randall G. Sprague, of the Mayo Clinic, attended the celebration of the twenty-fifth anniversary of the discovery of insulin held in Toronto under the joint auspices of the American Diabetes Association and the University of Toronto.

Dr. Wilder, who is president-elect of the American Diabetes Society, presented a paper on "Twenty-five Years of the Insulin Era," and Dr. Sprague discussed a paper by Dr. F. B. Peck entitled, "Insulin Mixtures and Modifications."

* * *

Dr. Kristofer Hagen, of Minneapolis, formerly a captain in the Army Medical Corps, with assignment in the European Theatre during the last war, left for India in September to enter the medical missionary field.

A graduate of Augsburg Theological School, Dr. Hagen is an ordained minister. Following a brief period as pastor of the Spring Lake Park Lutheran Church, he retired from the ministry and enrolled in the Medical School at the University of Minnesota, where he took his medical degree.

Dr. Hagen has been made head of the Benagaria Hospital, located 125 miles north of Calcutta and operated by the Santal Lutheran Mission.

* * *

Dr. Arthur W. Eckstein, formerly in practice at Comfrey and Mankato, and more recently a member of the staff at the Minnesota State School for feebleminded at Faribault, has entered private practice at Grand Meadow.

Dr. Eckstein, who is a native of New Ulm, studied pharmacy at the University of Minnesota for two years before going to Northwestern University, where he took his medical degree in 1912.

Mrs. Eckstein is a graduate nurse from the State Hospital at St. Peter, Class of 1912. When war was declared Mrs. Eckstein returned to nursing and served throughout the entire emergency period.

* * *

Dr. Raymond A. Rossberg, who has been resident physician at the Midway Hospital in Saint Paul since his discharge from military service in March, 1946, has entered practice at Morris in association with Dr. Frederick W. Behmler.

Dr. Rossberg graduated from the University of Minnesota in 1942 and interned at Ancker Hospital in Saint Paul. He entered the Army on July 1, 1943, and went overseas with the 306th General Hospital, but was later transferred to the 126nd General Hospital. He served in the European Theatre for twenty-seven months and when separated from service held the rank of major.

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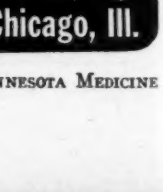

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Dr. Harold E. Coulter, University of Minnesota Medical School, 1942, has purchased the equipment of the late Dr. Henry B. Grimes in Madelia and will occupy Dr. Grimes' former offices.

Dr. Coulter is a brother of Dr. Everette B. Coulter, of Minneapolis, who practiced in Madelia several years ago. He interned at the University Hospitals in Minneapolis and the U. S. Marine Hospital in Norfolk, Virginia, prior to entering the Army Air Forces in 1943. He served as flight surgeon on the atom bomb test at Kwajalein, and was separated from the Army at Fort Sheridan, Illinois, on September 8.

* * *

Announcement has been made by Dr. Edward Bratrud, chief of staff of the Bratrud Clinic at Thief River Falls, of the appointment of Dr. Kermit Stensgaard, formerly of Fosston, to the clinic staff.

Dr. Stensgaard graduated from the University of Minnesota Medical School in 1944. Following a rotating internship at the Receiving Hospital, Detroit, Michigan, he entered the Navy and was on assignment at Great Lakes and the Seattle Naval Hospital, where he specialized in surgery.

Mrs. Stensgaard, a registered nurse and anesthetist, will be associated with St. Luke's Hospital at Thief River Falls.

* * *

Dr. Cyril P. Dargay and Dr. John B. Maunder have joined the staff of Dr. Clarence J. Henry's clinic at Milaca.

Dr. Dargay graduated from Marquette University Medical School in Milwaukee in December, 1943, and interned at St. Mary's Hospital in Duluth. A member of the 9th Infantry Medical Corps from 1944 to 1946, his service included assignments in England and on the Continent.

Dr. Maunder is a 1945 graduate from the University of Minnesota Medical School. Following completion of his internship at the Detroit Receiving Hospital in Detroit, Michigan, he was with the Oliver Clinic at Graceville before going to Milaca.

* * *

The Scientific Exhibit at the Centennial Session of the American Medical Association, which will be held at Atlantic City, June 9 to 13, 1947, will include both the history of medicine during the past century and latest developments of medical science.

Application blanks for space are now available. All applicants must fill out the regulation form. Applications will close on January 13, 1947, after which date the committee on scientific exhibit make decisions and notify applicants accordingly.

Application blanks for space should be procured as soon as possible. They are available from the director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

* * *

Although Dr. Wallace E. Belt, retired Dodge Center physician, is no longer physically able to continue his hobby of violin making, he still maintains a well-equipped workroom in the basement of his home and nothing gives him more pleasure than reminiscing over

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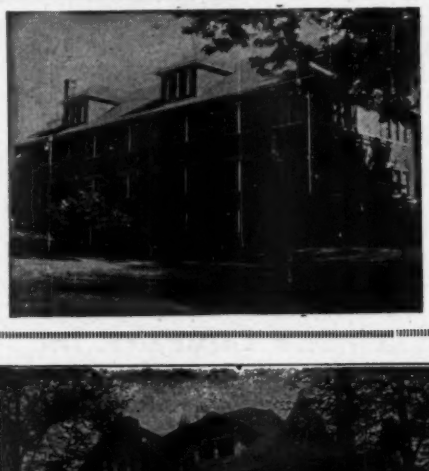

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the violins he has completed over a period of forty-two years. Dr. Belt dates his interest in violins from the age of seven, when he heard his first violin concert. He never studied music, however, and his hobby began in 1904 when he procured a book on violin making.

In all, Dr. Belt has made 131 violins; each is numbered and bears the maker's name and address. He has sold them to violinists in all parts of the country and two members of the Chicago Women's Symphony Orchestra are now using them.

* * *

Dr. M. Dudley Hilker, formerly of Rochester, has entered the general practice of surgery and medicine in association with Dr. Phil R. Roy, in Saint Paul.

A native of Rochester, where he graduated from high school and attended junior college, Dr. Hilker took his medical degree at the University of Minnesota in 1942, after having received a B.A. in 1938, a B.S. in 1939 and a M.B. in 1941. Following the completion of his internship at St. Joseph's Hospital in Phoenix, Arizona, he was inducted into the Army Medical Corps. With the rank of captain he was assigned to the European Theatre in July, 1942, and remained there until September, 1945. In the interim, between his separation from service and entering practice in Saint Paul, Dr. Hilker was engaged in postgraduate work at the University.

* * *

Speaking at a meeting of a committee of the Minnesota State Medical Association at Fergus Falls, Dr. Willard L. Burnap, Fergus Falls, reported that a shortage of nurses has forced many hospitals to refuse the number of beds available to patients. Among these are Rochester hospitals where 100 beds are no longer in use.

Dr. William L. Patterson, superintendent of the State Hospital at Fergus Falls, stated that Federal government demands are taking both doctors and nurses from state institutions and pointed out that the Veterans Hospital at St. Cloud with 1200 patients is staffed with thirty-nine doctors and twenty interns, while the state hospital at Fergus Falls has only four doctors to care for 2000 patients, and that there are only twenty-five doctors taking care of the 10,000 patients in all Minnesota State Hospitals.

* * *

Dr. Edwin A. Kilbride and his small son, John, nine, while en route from Worthington to Rochester were injured in a collision with a drunken driver at an intersection two miles west of St. James, and both were hospitalized.

Dr. Kilbride, who was thrown against the steering wheel with such force that the wheel was all but broken off its column, suffered severe chest injuries, including fractures of the sternum and breast bone, several ribs, fracture of the left wrist and a minor injury to the right knee. His son was severely lacerated about the forehead and chin when he was dashed through the windshield and only escaped being thrown out of the car because his foot caught in the seat.

Marks on the pavement of skidding tires for about seventy feet were evidence that Dr. Kilbride was aware of the impending collision and tried to avoid it.

* * *

Dr. Curt W. Lundquist, formerly a member of the Winona Clinic, has entered practice in Owatonna and will specialize in diseases of the eye, ear, nose and throat.

Dr. Lundquist took a B.S. degree at Northwestern University in 1929, then entered the University of Minnesota Medical School and graduated in 1934. Following his internship at the Minneapolis General Hospital, he was in general practice at Hibbing for three years. From Hibbing he went to the University of Pennsylvania where he specialized in diseases of eye, ear, nose and throat for another three years. He had been a member of the staff of the Winona Clinic for a year when he was inducted into the Army Medical Corps. His assignments included service in New Guinea, and for his last fifteen months of duty he was chief of the eye, ear, nose and throat section of the Station Hospital at Jefferson Barracks, Missouri.

* * *

Dr. Milburn W. Kemp has resigned the superintendency of Moose Lake State Hospital and has entered private practice in Detroit, Michigan, where he will operate a small hospital for mental patients.

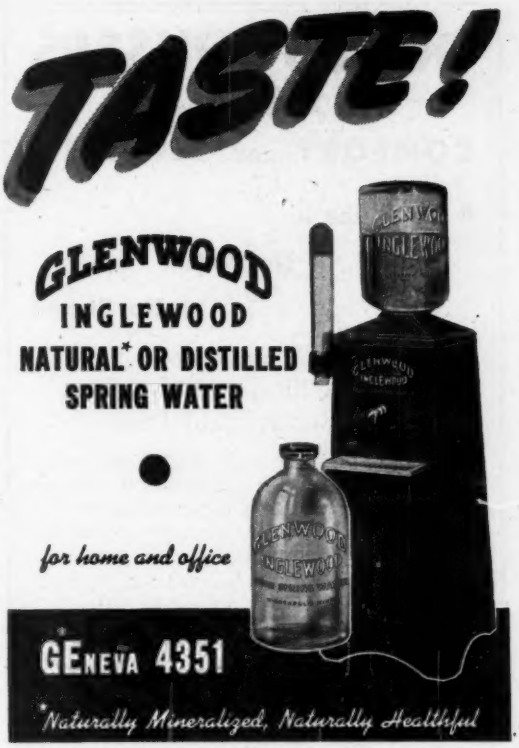
Dr. Kemp, a native of Port Dover, Ontario, was educated in Toronto. He came to the United States in 1924 and began his medical work at the State Hospital in Traverse City, Michigan. From there he went to the staff of a hospital in Newberry, Michigan, then came to the hospital at Fergus Falls, Minnesota, in 1927, where he was assistant superintendent for eight years. He was superintendent at Anoka from 1935 to 1938, when he was appointed to the position at Moose Lake.

Dr. Horton C. Hinshaw, of the Mayo Clinic, has been in New York for a meeting of the executive committee of the National Tuberculosis Association. While in the East, Dr. Kirklin addressed the Twenty-first Clinical Congress of the Connecticut State Medical Society held in New Haven.

* * *

Dr. Charles E. Proshek, Minneapolis, arrived home on October 6, from sixteen months in Europe, where he was in charge of medical care and public health activities in camps for displaced persons of the Eastern Military District with headquarters in Munich.

Dr. Proshek reports the UNRRA's effort at repatriation of the displaced is stubbornly resisted by these wanderers who are now comparatively comfortable in the camps after being pushed all over the Continent, and who fear relinquishing a certainty for something that may possibly be very inferior. But it is the children, in the doctor's opinion, who represent the great tragedy of the aftermath of the war; "homeless, orphaned children, wandering around unaccompanied, physically below par, but mentally mature, reflecting the terrible experience of the war to which they have been subjected."



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Commissioned a colonel in the U. S. Public Health Service, Dr. Proshek was detailed to UNRRA. Before resuming his practice, Dr. Proshek said he intends first to get in some hunting and fishing, tune up his violin for weekly gatherings of a chamber music group, of which he is a member, and eat lots of ice cream."

* * *

Although eighty-nine, long past the time when most men retire, and confined to his home for the past eighteen months by a broken hip, Dr. George B. Weiser, pioneer New Ulm physician, is counting the days until he can return at least for a few hours out of each day to his offices which are kept in readiness for him. Dr. Weiser, a member of the staffs of Union and Loretto Hospitals, was born in Pennsylvania in 1859. He took his medical degree at Jefferson Medical College in Philadelphia in 1879 and practiced for fourteen years in his native State before coming out to Minnesota, in 1892.

In addition to his medical work, Dr. Weiser has always been active in local civic affairs. He was chairman of the County Republican Committee for many years and president of the Board of Education for thirty years. During his enforced vacation he has read incessantly and is probably better informed on latest medical developments than many a physician who is out in the thick of things. Asked in a recent interview whether, if he had it to do over again, he would choose the same career, he said with the utmost earnestness: "Yes, I certainly would. It is the fullest living a man can have and the most satisfying."

* * *

HOSPITAL NEWS

The Variety Club of the Northwest, an organization composed largely of persons engaged in the theatrical business, has presented a fund of more than $250,000 to the University of Minnesota to be used in the construction of a hospital unit devoted to heart patients and research in rheumatic fever and resultant heart disorders. The Club also pledged to contribute $25,000 annually towards support of the institution.

Dependent upon construction costs and whatever additional funds may be available, the hospital will have up to 100 beds, which are to be shared on a fifty-fifty basis by patients up to sixteen years of age and patients older than that. The Department of Pediatrics, of which Dr. Irvine McQuarrie is head, will be responsible for the younger group of patients. The older patients will be assigned to the Department of Medicine which is headed by Dr. Cecil J. Watson.

The fund was presented at a colorful ceremony at

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Coffman Memorial Union with Fred Allen as toastmaster. The speakers included Governor Edward Thye, Mayor Humphrey, of Minneapolis, Dean Harold S. Diehl, of the Medical School, and President J. L. Morrill, who accepted the check for the University.

* * *

Two nurses from Burma, Ma Koi, of Shan state, and Sein Bwint, of Kerenni state, are studying under fellowships at St. Mary's Hospital in Rochester.

Both young women served as nurses with Colonel Gordon Seagrave's division during the Burma campaign until 1943. Miss Koi then became head surgical nurse in the hospital at Lashio, and Miss Bwint took a position in a hospital at Loikaw. At Rochester they will receive general hospital training of all types. Miss Koi hopes to do some special work in surgery, while Miss Bwint's particular interest is anesthesia.

The fellowships were arranged by Dr. John Grindlay, of Rochester, who was with Colonel Seagrave and the State Department of the United States.

* * *

Dr. George H. Freeman, superintendent of the State Hospital at St. Peter, was a member of the delegation who examined the new type of building used for housing senile mental patients at Tacoma, Washington, with the view to possible duplication in Minnesota.

* * *

Miners Hospital in Crosby, which has been owned and operated by Dr. Baxter A. Smith for the past thirty years, has become the property of the Benedictine Sisters Benevolent Association. The order also operates hospitals in Brainerd, Duluth and Hibbing. Miners Hospital is to be completely renovated as soon as materials and labor can be secured.

Dr. Smith and his assistants, Dr. Lester N. Dale and Dr. J. B. Nixon, will continue to occupy their offices in the clinic building

* * *

The Board of Trustees of Northwestern Hospital, Minneapolis, entertained at dinner at the Radisson Hotel on October 9 in honor of the medical staff of the hospital, many of whom have been in military service. Dr. Walter H. Judd was the guest speaker, talking on "Legislation Affecting the Field of Medicine Past and Pending."

Special guests included the men's advisory board of the hospital, of which Donald D. Davis is chairman, Dr. Erling S. Platou, chief of staff, and Mrs. Charles Meech, Jr., who represented the junior board.

Northwestern Hospital is one of the few in the country which is maintained exclusively by women. There is an advisory committee of men but they have no vote. Mrs. F. Peavey Heffelfinger is head of the executive board.

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SEVERAL "FLU" VIRUS FORMS

The influenza virus, an almost infinitesimally minute living particle, not only exists in several forms but these forms are quite different and individualistic, as if they were different species of animals. This is the conclusion of Dr. Jonas E. Salk, of the University of Michigan, from investigations conducted with the aid of the Commission on Influenza of the Army Surgeon General's Office.

Determination of differences between strains is essential for preparation of more effective vaccines.

Since virus particles are too small to be seen, differences can be found only in their behavior in certain physiological and chemical tests. It has been recognized for some years that there are two major types—Influenza A and Influenza B. The maladies caused by these are indistinguishable as far as overt symptoms are concerned, but their immunological reactions are quite different.

Dr. Salk's experiments show that within these two types there are highly individualistic strains. Since the "flu" viruses were first isolated, several continuous hereditary lines have been maintained at various laboratories. He tested some properties of these strains—especially a blood-agglutinating ability—under various degrees of heat. Heat tends to speed up chemical and physiological processes. Quite marked differences were found.

Like all other living things, these subcellular organisms seem bound by some fairly rigid law of heredity. Differences tend to become stabilized in families and persist.

Techniques evolved for finding these differences promise to be of some value in preparing more effective vaccine, the value of which now has been conclusively demonstrated by the army's tests with great numbers of men during the last year of the war.

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BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

HYGIENE. A Textbook for College Students on Physical and Mental Health from Personal and Public Aspects. Fourth Edition. Florence L. Meredith, B.Sc., M.D. Fellow of American Medical, American Public Health and American Psychiatric Associations; Professor of Hygiene and Public Health, Tufts College. 838 pages. Illus. Price, $4.00, cloth. Philadelphia: Blakiston Co., 1946.

MEDICAL USES OF SOAP. A Symposium. Edited by Morris Fischbein, M.D. 195 pages. Illus. Price, $3.00, cloth. Philadelphia: J. B. Lippincott Co., 1946.

THE DIAGNOSIS AND TREATMENT OF BRONCHIAL ASTHMA. Leslie N. Gay, Ph.B., M.D. Assistant Professor of Medicine of Johns Hopkins University School of Medicine; Director of Allergy Clinic. Johns Hopkins Hospital; foreword by Warfield T. Longcope, A.B., M.D., Professor of Medicine of Johns Hopkins University School of Medicine; Physician-in-Chief of Johns Hopkins Hospital. 334 pages. Illus. Price, $5.00, cloth. Baltimore: Williams & Wilkins Co., 1946.

VICTORY OVER PAIN. A History of Anesthesia. Victor Robinson, M.D. 338 pages. Illus. Price, $3.50, cloth. New York: Henry Schuman, 1946.

A MEMOIR TO THE ACADEMY OF SCIENCES AT PARIS ON A NEW USE OF SULPHURIC ETHER. By W. H. G. Morton of Boston. Presented by M. Arago in the Autumn of 1847. Foreword by John F. Fulton. 24 pages. Price, $1.50, paper cover. New York: Henry Schuman, 1946.

THE CENTENNIAL OF SURGICAL ANESTHESIA. An Annotated Catalogue of Books and Pamphlets Bearing on the Early History of Surgical Anesthesia. Compiled by John F. Fulton, M.D., and Madeline E. Stanton, A.B. 102 pages. Price, $4.00, paper cover. New York: Henry Schuman, 1946.

THE CHALLENGE OF POLIO. The Crusade Against Infantile Paralysis. Roland H. Berg. Introduction by Basil O'Connor, president of the National Foundation for Infantile Paralysis, Inc. 208 pages. Price, $2.50, cloth. New York: Dial Press, 1946.

THE DIFFERENTIAL DIAGNOSIS OF JAUNDICE. Leon Schiff, Ph.D., M.D. Associate Professor of Medicine, Department of Internal Medicine, University of Cincinnati Medical School; Director, Gastric Laboratory, Cincinnati General Hospital. 313 pages. Illus. Price, $5.50, cloth. Chicago: Year Book Publishers, 1946.

MEDICAL RESEARCH. A Symposium. Edited by Austin Smith, M.D. 169 pages. Illus. Price $5.00, cloth. Philadelphia: J. B. Lippincott Co., 1946.

INTRACRANIAL COMPLICATIONS OF EAR, NOSE AND THROAT INFECTIONS. Hans Brunner, M.D. Associate Professor of Otolaryngology, University of Illinois College of Medicine, Chicago. 444 pages. Illus. Price $6.75, cloth. Chicago: Year Book Publishers, 1946.

JOURNAL OF THE HISTORY OF MEDICINE AND ALLIED SCIENCES. Anesthesia Centennial Number, October 1946, Vol. 1, No. 1. 206 pages. Illus. Price $2.50, paper cover. New York: Henry Schuman, 1946.

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of the
Chicago Medical Society
will be held at the Palmer House
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INSURANCE REINSTATEMENT

The deadline established by the Insurance Act of 1946 for most veterans to take advantage of the easy reinstatement of their GI Term Insurance is February 1, 1947, six months after passage of the Act, according to a folder entitled "GI Insurance Streamlined," published by the Illinois Commercial Men's Association.

In the Insurance Act of 1946 passed in its closing sessions, Congress met every major reason why many veterans dropped their National Service Life Insurance after leaving the service. These changes and an explanation of how to get the most out of GI insurance are described fully and clearly in the folder, "GI Insurance." The folder, published primarily for veteran members of the Illinois Commercial Men's Association, is available free to other interested veterans. Veterans desiring free copies should send a request to R. A. Cavenaugh, c/o of I.C.M.A., 332 S. Michigan Avenue, Chicago 90, Illinois.

Major reasons for dropping GI insurance have been lack of lump sum payment to beneficiaries, restriction of beneficiaries to members of immediate family and omission of endowment plans among permanent plans offered. All these, important to civilian needs of veterans, have now been changed. Congress added a disability income provision to pay $50 a month insurance income in case of total disability occurring at any time before the age of sixty.—Communication issued by Illinois Commercial Men's Association.

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